

# ANNUAL REPORT

OF THE

MEDICAL OFFICER

TO

## The County Council

OF

## NOTTINGHAMSHIRE,

FOR THE YEAR 1904,

BY

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NOTTINGHAM,

*July 1st, 1905.*

MY LORDS AND GENTLEMEN,

I have the honour to present my ninth Annual Report dealing with the year 1904. It consists, as in former years, of an analysis of the Annual Reports of the Medical Officers of Health of the 26 Districts into which the Administrative County is divided for sanitary purposes, together with Tables of Vital Statistics derived from those Reports. Two additional Tables have been introduced this year, giving a summary of the great amount of work done by the Medical Officers of Health in the County under the recent Factory and Workshop Act.

I have, as heretofore, made observations when necessary and introduced abstracts concerning general Sanitary and Hygienic questions of importance, not confined to the year 1904, but as far as possible brought up to the date of publication.

The work of the Public Health Department continues to increase somewhat rapidly, and the advice of the County Medical Officer is more frequently sought than formerly, by Medical Officers of Health and Local Authorities, upon sanitary matters which do not come directly to the notice of the County Council.

The correspondence of the Public Health Department has increased greatly, involving the issue of 3063 letters and reports, compared with 1649 in 1903, and 383 in 1901. This is due partly to the very large amount of correspondence entailed by bringing the Midwives Act into operation; and partly to increased demands in all branches of sanitary work.

During the year forty journeys to different parts of the County were made, many of them occupying the whole day.

The County Medical Officer attends all Local Inquiries held by the Local Government Board when sanitary questions of importance to the County Council are involved.

During the last three months of 1904, I had the invaluable assistance of Miss Ross, the Superintendent of the Notts. Nursing Federation, who was appointed to give part of her time to the duty of the inspection of midwives under the directions of the County Medical Officer. Without the help of Miss Ross, no serious attempt could have been made to carry out the spirit as well as the letter of the Midwives Act, on account of the great amount of detailed work involved. Indeed, so useful and essential, as well as extensive, has the work of Inspection proved, that it has since been found necessary to appoint a Nurse Inspector to give her whole time to the work.

In regard to River Pollution, the friendly agreement with the Derbyshire County Council, has resulted in the authorities on both sides the Erewash, who are most seriously polluting the river, agreeing to have orders made by the County Court, under the Rivers Pollution Prevention Acts, requiring them to remedy the pollution within a period of five years. This length of time has been rendered necessary in order to enable Ilkeston to establish entirely new sewage purification works. Much is expected to be done long before that date; but it is hoped there will be a very great improvement at the end of that period.

I have the honour to remain,

Your obedient Servant,

HENRY HANDFORD.

## ANNUAL REPORT.

The Annual Report of the County Medical Officer is the *only* record of the Health of the Administrative County over which the County Council exercise jurisdiction.

The Report of the Registrar-General deals with the *Registration County*, which differs very essentially from the Administrative County both in area and population, including, as it still does, about 100,000 persons residing in Derbyshire, Leicestershire, Lincolnshire, and the West Riding of Yorkshire, in addition to the majority of the population of the Administrative County.

**Annual Reports.**—The Reports were received on the following dates :—

Jan. 28th	Eastwood.	Mar. 22nd	Skegby.
Feb. 17th	East Retford Rural.	" 25th	Worksop.
" 25th	Misterton.	" 25th	West Bridgford.
" 27th	Mansfield Woodhouse.	" 28th	East Retford Urban.
Mar. 1st	Mansfield.	" 31st	Southwell.
" 2nd	Warsop.	April 4th	Newark Urban.
" 7th	Newark Rural.	" 4th	Hucknall Torkard.
" 7th	Carlton.	" 7th	Stapleford.
" 7th	Leake.	" 11th	Sutton-in-Ashfield.
" 9th	Arnold.	" 12th	Kingston and Ratcliffe.
" 14th	Hucknall Huthwaite.	" 13th	Bingham.
" 15th	Kirkby-in-Ashfield.	" 17th	Basford.
" 18th	Blyth and Cuckney.	" 25th	Beeston.

The last Report was received three weeks earlier than was the case last year ; and the compilation of this Report has been greatly facilitated by Medical Officers of Health kindly sending advance copies of their *statistics* when there was a probability of the printed copy being late.

**Printing Annual Reports.**—All the District Councils, except Bingham, now print the Annual Reports of their Medical Officers of Health. The advantage of printing these Reports has been so generally recognised, that it is unnecessary for me to refer to it again.

**Urban and Rural Districts.**—There has been no addition to the number of Urban Districts during the year. The petition of the parish of Southwell to be made an Urban District, which had been approved by the County Council, was refused, on appeal, by the Local Government Board.

**Area.**—The area of the Administrative County amounts to 814 $\frac{3}{4}$  square miles, exclusive of water.

**Population.**—The *natural* increase of population for the year 1904, by excess of births over deaths, was **5004** or **1·69** per cent., compared with 4926 and 1·67 per cent. for 1903, and 4804 and 1·68 per cent. for 1902. These figures show a very steady and uniform progress.

The *estimated* population for the whole County, at the middle of the year 1904, was **303,283**, showing an increase of **8718**, or **2·95** per cent., compared with 8893 and 3·01 per cent. for 1903. This is much in excess of the natural increase, and indicates a large amount of immigration, chiefly into the coal mining portions of the Urban Districts.

The estimated increase in the Urban Districts was 7921, or 4·57 per cent.; and in the Rural 796, or ·65 per cent. The estimated population of the County has been arrived at by adding together the populations of the 26 Districts, which have been estimated by each Medical Officer of Health for his own District, from local knowledge. Calculated according to the rate of increase shewn between the Census of 1891 and the Census of 1901, the population at the middle of 1904 would be 289,452. This is, no doubt, too small, on account of the rapid development of coal mining in certain districts; and the local estimates, which have been carefully made, are nearer the truth, though possibly they err slightly on the side of excess.

The birth rates and death rates have been calculated upon the *estimated* population. Death rates naturally vary considerably from year to year according to season, prevalence of epidemic disease and other causes; but birth rates are much more constant and are not liable to *sudden* fluctuations from year to year. The fact, therefore, that the birth rate for the County has not varied more than ·6 per 1000 between the highest and lowest rates of the last four years, since the Census, and remains 3 per 1000 higher than the rate for England and Wales, is strong evidence that the population has



not been over estimated. For, naturally, the effect of over estimating the population is to diminish the rates calculated upon that population.

**Births.**—During the year, 9379 births have been registered in the County, corresponding to a rate of 30·9 per 1000 of the population. This is an advance of ·2 per 1000 on 1903, but is ·3 below the average rate of the past ten years, which amounts to 31·2.

The birth-rate in the Urban Districts was 32·9 per 1000, compared with an average of 33·8 for the past ten years.

The Rural birth-rate was 27·8, which exactly coincides with the average of the past 10 years.

The high birth-rate in this County is a sign of prosperity, and a subject of congratulation.

\*According to President Roosevelt, “If a race does not  
“have plenty of children, or if those children do not grow up,  
“or if, when they grow up, they are unhealthy in body or  
“stunted or vicious in mind, then that race is decadent, and  
“no heaping up of wealth, no splendour of monetary prosperity  
“can avail in any degree as offsets.”

High though the birth-rate is in this County, namely, 3 per 1000 above the rate for the whole of England and Wales, and that at a time when the rapid and progressive fall in the birth-rate of the kingdom is one of the most serious problems of the day, there is no reason to suspect any error of calculation. On the contrary, there are several circumstances which confirm the accuracy of the rate. It conforms very closely with the rates for 1903, and also with the average for the last ten years. The fact, shown by the Registrar-General†, that Notts. had the

\* The *Fortnightly Review*, May, 1905.

† Cf. page 10.

highest proportion of early marriages in 1903, would lead one to expect a high birth-rate in 1904, for early marriages are more prolific than late ones.

In very few of the Reports is the number of *illegitimate* births given separately, with their proportion of deaths. The importance of this lies in the well known fact that the infantile mortality of illegitimate children is, approximately, double that of legitimate children.

The statistical tables of the Local Government Board, which are necessarily followed in each Report, do not provide for the separation of the births into male and female. In many of the Reports this distinction is made in the text of the Report, but not in others. Consequently, I have not attempted the distinction in this Report, although it would have possessed some features of interest.

The general decline in the birth-rate of England, although affecting this County less than most, is a matter of much importance, and is gradually attracting considerable attention. For this reason, I have reproduced some observations of the Registrar-General, which are of much value.

“The mean birth-rates in England and Wales at the four last Census periods, calculated on the total population, were as follows:—

	THREE-YEAR PERIODS.			YEAR.
1870-2.	1880-2.	1890-2.	1900-2.	1903.
35·3	34·0	30·7	28·6	28·4

“The total population is not, however, the most satisfactory standard by which to measure the birth-rate, because it does not take account of the age constitution of the population, and particularly the age constitution of the female population of conceptive age. For instance, the proportion of women aged 15-45 to the total population in England and Wales, which was 23·1 per cent. in 1871 and in 1881, rose to 23·8



“per cent. in 1891, and further increased to 25·0 per cent. in 1901; if, therefore, the average fecundity of the female population at these ages had remained constant, the birth-rate in proportion to total population would have increased during the past thirty years by nearly two per cent. Stated in another way, had the ratio of births to the female population of conceptive ages been identical in 1871 and in 1903, the births registered in the latter year would have amounted to upwards of one and a quarter millions, instead of the 948,271 actually recorded.”

“In view of these facts, it is evident that a preferable method by which to measure the birth-rate is to calculate the proportion of births per 1000 women of conceptive age.”

“Proportion of total births per 1000 women aged 15–45 years :—

THREE-YEAR PERIODS.				YEAR.
1870–2.	1880–2.	1890–2.	1900–2.	1903.
153·7	147·7	129·7	114·8	113·8

“The true decrease in the birth-rate is not adequately shown by a comparison of the rates calculated on the total population. Taking into consideration the very considerable changes in the sex and age constitution of the population in the period under review, it is obvious that the comparison of birth-rates calculated by this method fails to give a true measure of the amount of the decrease that has actually occurred. The disturbing factor of changing constitution of the population is mainly, though not entirely, eliminated by calculating the proportion of births to the number of women living at child-bearing ages. This method of measuring the birth-rate shows the amount of the decrease to be far greater than is shown by the rates based on the total population.”

**Marriages.**—In most of the Reports there is no reference to the number of marriages, and yet they give valuable information as to the prosperity or otherwise of a community.

The higher the marriage rate, and the younger the age at marriage, the more thriving, as a rule, are the people.

Early marriages, no doubt frequently improvident, are characteristic of mining and manufacturing districts during prosperity.

In the Registrar-General's Report for England and Wales for 1903 (the last yet issued), it is shown that the proportion of minors married has been declining ever since 1876–80, when in each 1000 marriages, 77 husbands and 217 wives were under 21 years of age. In the year 1903 this proportion had fallen to 45 husbands and 152 wives.

It is of much interest to know that for the Nottinghamshire Registration County the numbers were 80 husbands and 227 wives under age in each 1000 marriages. This is the highest proportion of men, and the highest but one (Durham, 234) for women for any County in England or Wales, and would indicate a very high degree of prosperity during that year.

**Deaths.**—The total number of deaths registered in the County in 1904 was 4375; of these, *1306, or more than two-sevenths, occurred in infants under one year of age.*

The death-rate per 1000 of the population was **14·4** for the whole County. For the Urban Districts it was **14·2**, and for the Rural Districts **14·6**.

The average for the previous ten years is—for the whole County **15·6**, for the Urban Districts **16·1**, and for the Rural Districts **14·9**. The average rate for a period of years is of great value, inasmuch as the accidental fluctuations, which are apt to occur from year to year, especially when dealing with

small numbers, are reduced to a minimum, and any steady progressive change is revealed. The averages for the different Districts for the previous ten years are given in the following table :—

AVERAGE DEATH-RATE FOR THE TEN YEARS, 1894–1903.

URBAN DISTRICTS.	YEARS.	PER 1000.
Hucknall Huthwaite	1894—1903	18·9
Warsop ... ..	1894—1903	18·0
Mansfield ... ..	1894—1903	17·9
Sutton-in-Ashfield ...	1894—1903	17·7
Worksop ... ..	1894—1903	17·3
Hucknall Torkard ...	1894—1903	17·0
Newark ... ..	1894—1903	16·5
Mansfield Woodhouse	1894—1903	16·3
*Eastwood ... ..	1897—1903	15·9
*Kirkby-in-Ashfield ...	1896—1903	15·9
East Retford ... ..	1894—1903	15·5
Arnold ... ..	1894—1903	14·9
Carlton ... ..	1894—1903	13·4
Beeston ... ..	1894—1903	12·9
West Bridgford ... ..	1894—1903	9·1
RURAL DISTRICTS.		
Southwell ... ..	1894—1903	16·3
Bingham ... ..	1894—1903	15·7
Skegby ... ..	1894—1903	15·7
Kingston and Ratchiffe	1894—1903	14·7
†Basford ... ..	1897—1903	14·6
Stapleford ... ..	1894—1903	14·4
Blyth and Cuckney...	1894—1903	14·3
East Retford ... ..	1894—1903	14·3
Leake ... ..	1894—1903	14·0
Misterton ... ..	1894—1903	13·8
Newark ... ..	1894—1903	13·6

\* These two only became Urban Districts in the years mentioned, and before that, it is not possible to separate the statistics.

† Before 1897 the statistics of Eastwood and Kirkby-in-Ashfield were included in those of Basford.

These are the *gross* rates, which it is still necessary to retain. But the Local Government Board require further "corrections" to be made. The *nett* deaths are calculated by adding to the total deaths registered in the district the deaths of residents which have taken place in Institutions (*e.g.*, Hospitals, Asylums, or Workhouses) outside the district, and have been registered in those outside districts; and deducting the deaths of non-residents who were temporarily in the district at the time of their death. These corrections have been made in many of the districts, but in some no corrections have been made, and in others they are evidently incomplete.

The necessity of making such corrections is rendered very evident in such a case as that of Bingham, in which district the County Asylum is situated. Of the 245 deaths registered in the Bingham Rural District, 68 took place in the Asylum, and of these two only belonged to the Bingham Rural District. Consequently the 66 deaths were deducted, reducing the death-rate from 17·3 to 12·6; but it is not at all clear that the 66 deaths have been added to the several other districts to which they properly belong. Similarly, many deaths of residents in the County occur in the County and other Hospitals, but there is reason to think they are not all allotted to the districts to which they belong.

The *nett* deaths for the County are **82** less than the total registered deaths; and it is probable that some of this difference is due to the incompleteness of the above method of correction. For a similar reason the total deaths in table XIV. at the end of this Report, which has been derived from a different source, vary from both. These small differences are not of great importance; but it is only by calling attention to them that greater accuracy is gradually attained year by year.

The *nett* or “corrected” death rate for the County for 1904 was 14·1. For the Urban Districts it was 13·9, and for the Rural Districts, 14·4.

For the second year in succession the Rural death rates have exceeded the Urban. This is a matter of considerable interest and importance, as well as of some obscurity.

As was suggested in last year’s Report, the difference in the age and sex constitution between the populations of the Urban and of the Rural districts probably, to a large extent, explains the higher death-rate of the Rural districts. The death-rate for males is always higher than for females. For the year 1903, in England and Wales, the Registrar-General shows that the death-rate of males was 16·5, while that of females was 14·4 per 1000 living, of each sex respectively.

The tables of the Local Government Board used by the Medical Officers of Health in their Annual Reports do not distinguish between the deaths of males and of females. Consequently, there is no means of knowing what is the difference between the death-rate of males and that of females in this County, except from table XIV., which shows the death rate of males in 1904 to have been 16·2 and for females 14·7.

The following table from the Sixty-sixth Annual Report of the Registrar-General shows very distinctly the varying rates of mortality in the Urban and Rural *Registration* Counties, and further that in both areas the male rates are considerably in excess of the female. In each instance the Urban rates exceed the Rural, as is usual, and as has been the case in this County until the last two years; but it will be observed that while the correction for age and sex distribution slightly increases the Urban rates, it very largely reduces the Rural rates.

MORTALITY FROM ALL CAUSES, AT ALL AGES.		Crude Rates	Corrected Rates.*	
		Average. 1898—1902.	Average. 1898—1902.	Year 1903.
Both Sexes	England and Wales..	17·418	17·388	15·418
	Urban Counties ..	18·483	19·204	16·996
	Rural Counties ..	16·220	14·294	12·884
Males ..	England and Wales..	18·593	18·562	16·506
	Urban Counties ..	19·806	20·562	18·236
	Rural Counties ..	17·041	15·080	13·607
Females	England and Wales..	16·317	16·288	14·401
	Urban Counties ..	17·243	17·932	15·834
	Rural Counties ..	15·455	13·559	12·208

(i).

Urban Registration Counties.

Glamorgan.  
Lancaster.  
London.  
Middlesex.  
Monmouth.  
Northumberland.  
Nottingham.  
Stafford.  
Warwick.  
East Riding )  
West Riding ) Yorks.

(ii).

Rural Registration Counties.

Buckingham.  
Cambridge.  
Cornwall.  
Hereford.  
Huntingdon.  
Lincoln.  
North Wales.  
Norfolk.  
Oxford.  
Rutland.  
Salop.  
Somerset.  
S. Wales (less Glamorgan).  
Suffolk.  
Westmorland.  
Wilts.

Estimated population of  
these counties in 1903 —  
18,039,289.

Estimated population of  
these counties in 1903 —  
4,314,254.

\* These are the rates of mortality that would result if the sex and age constitution of the populations in these areas, severally, were identical with that of the population of England and Wales at the Census of 1901.



Also, after the age period 5—15, the death-rate increases at each subsequent age period. Therefore, an increased proportion of males and a larger proportion of old people in a community result in a higher death-rate without any increase of local “unhealthiness,” or unfavourable hygienic conditions. And, conversely, a larger proportion of females and of young people beyond the age of early childhood, leads to a lower death-rate.

The lower birth-rate in the Rural districts means a smaller number of children over five years of age as well as under five. A large proportion of young women flock from the Rural districts to the Urban to domestic service, and to factory work. More persons past middle age retire from active life into the country than into the town\*.

The remarkable prosperity of many of the Urban districts during the past three or four years, has resulted in a large influx of young and vigorous adult workmen, among whom the mortality is small.

These causes combined, to a very large extent, explain the larger death-rate in the Rural districts.

By making the appropriate corrections for the age and sex constitution of the Urban and Rural districts, assuming that the proportions of each sex remain the same as at the Census of 1901 (and there is no information since that date),

	Whole County.	Urban District.	Rural District.
the rates for 1903 are altered from	14·0	13·8	14·3
to	13·45	13·93	12·89
and the rates for 1904 ... from	14·4	14·2	14·6
to	13·8	14·3	13·1

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\* It may be of interest to mention that one death of a man aged 100 years was registered in the Southwell Rural District.

Tables XIII. and XIV., at the end of this Report, from a different source, and containing details not obtainable from the Annual Reports, very clearly illustrate the influence of age and sex constitution upon the death-rate. They show that the appropriate corrections reduce the Rural rates slightly below the Urban. The actual rates are rather higher than in the previous tables, because the populations are estimated upon the decennial increase between the last two Censuses, as is the usual practice in the Registrar-General's Tables, and not from local knowledge; and the deaths are a few more.

The change in the age and sex constitution of the Urban and Rural Districts has been a gradual one, and has not taken place suddenly during the last two years. It is, however, only during the last two years, 1903 and 1904, that the Rural death-rate has exceeded the Urban in this County; and the table on page 14 shows that in England, generally, the reverse is the case, even after correction for age and sex constitution. It would appear, therefore, that there is still something to be explained; and it is possible that may be the greater sanitary progress of the Urban Districts.

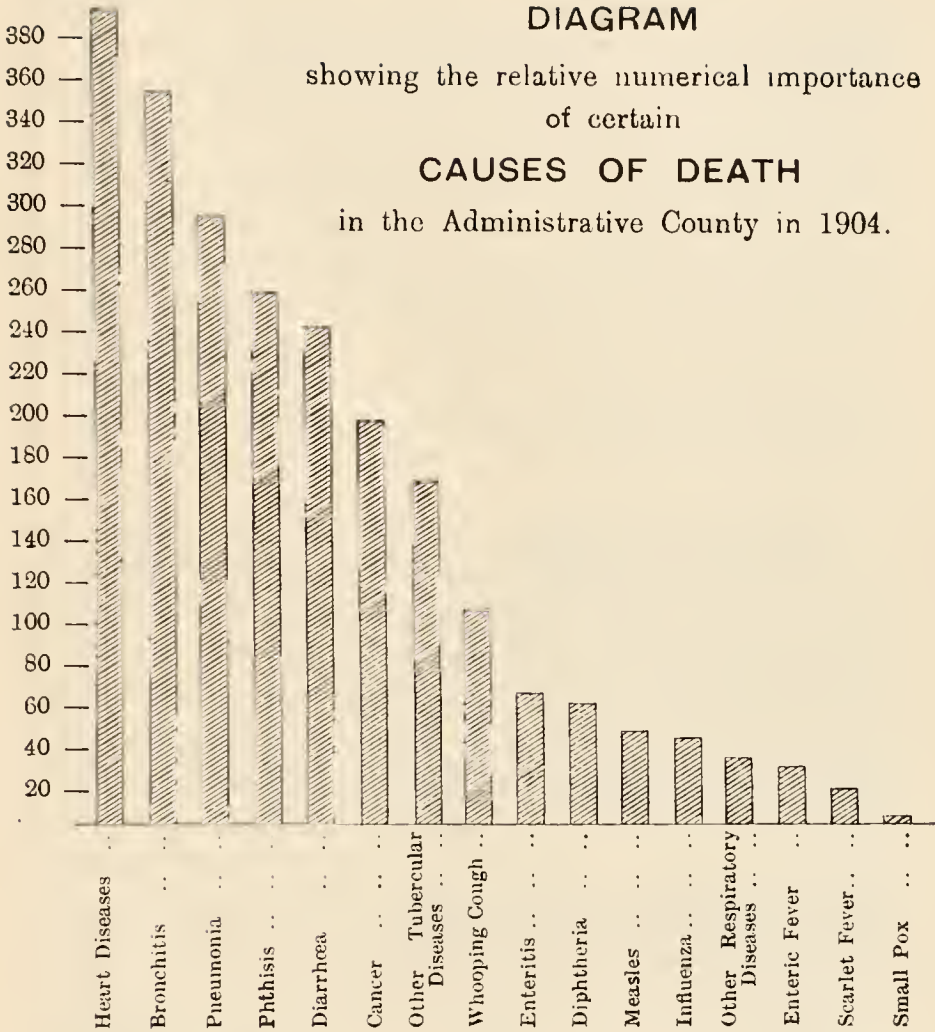
The number of deaths from each of a large number of causes are given in detail in Tables VI.-IX. at the end of this Report, but the following graphic representation shows at a glance the relative importance of some of the commoner diseases, and groups of diseases, as sources of loss of life to the community. It will be seen that diseases like Scarlet Fever and Small Pox cause a very small number of deaths compared with Heart diseases, Lung diseases, Diarrhoea, and Cancer. The great importance of the infectious diseases lies in the fact that they are preventable; and that, therefore, the deaths from them are unnecessary.

# DIAGRAM

showing the relative numerical importance  
of certain

## CAUSES OF DEATH

in the Administrative County in 1904.



The struggle of medicine against disease and death has been long and arduous—far longer than most men realize. “\* Probably before the Homeric poems were written, before the Israelites were in Egypt, before the stone age had passed, learned men devoted themselves to the consideration of the nature of human life, strove to prolong it, to assuage suffering, and to cure disease. They studied and treated many of the ailments familiar to us, such as tubercle, leprosy, plague, anæmia, and other diseases prevalent to day.” There is no

\* Richard Caton, M.D., Harveian Oration, 1904, pp. 7 and 8.

means of expressing their success in figures, even approximately, for the facts are wanting; but in this country the death-rate has been reduced during the last 50 years from 22·5 in 1854, to 15·4 in 1903. To accomplish this it is needful to be broad-minded and many-sided. “\* About the year 3500 B.C. “there lived in Egypt a learned physician, I-em-hotep, one of “those intellectual giants who take all knowledge for their “province. In his comprehensiveness he surpasses Leonardo “da Vinci or our own Linaere; he is distinguished as a “physician, a minister of the king, a priest, a writer, an “architect, an alchemist, and an astronomer—great in all, but “greatest in medicine.”

**Zymotic Death-Rate.**—The death-rate from the principal Zymotic diseases, namely, Small Pox, Scarlet Fever, Whooping Cough, Fever (comprising Typhus, Typhoid, and Continued), Diarrhœa or Epidemic Enteritis, Diphtheria, and Measles, was 1·70 per 1000 for the whole County. The Urban rate was 1·99, and the Rural 1·27. This is the usual classification. The deaths from Diarrhœa or Epidemic Enteritis form a large proportion of the Zymotic deaths; and, consequently, the zymotic death-rate is largely influenced by them. But the deaths from Diarrhœa are arbitrarily divided into classes, some of which are included among the zymotic deaths, and others excluded. This uncertainty greatly impairs the value of the zymotic death-rate as an index of the prevalence of epidemic diseases.

**Infantile Death-Rate.**—This is a matter of great and growing importance, especially in a country with a steadily falling birth-rate. The infantile death-rate fluctuates somewhat from year to year, mainly in accordance with seasonal influences. But, though there has been a progressive and marked decline in the death-rate from many diseases during the last 50 years, the infantile death-rate has shared very

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\* Ibid.

slightly, if at all, in that decline. It is the most accurate of all death-rates, because it is based upon the number of births registered during the year, and is independent of any uncertainties of population. The Registrar-General states for 1903:—

“As illustrating the great reduction of mortality in the  
“earlier years of life, it may be mentioned that the death-rates  
“both of males and of females at ages between five years and  
“twenty-five years, were approximately only 40 per cent. of  
“the corresponding rates in the decennium 1841–1850.”

It will be shown a little later that the infantile mortality has not shared in that reduction.

The rate for this County for the year 1904 was **139** deaths per 1000 births. For the Urban District it was 150, and for the Rural District 118. The average for the whole County for the previous ten years was 147, or 8 per 1000 higher than in 1904; but so long ago as the year 1894 it was only 130, so we may take it that there is no material change. The rate for England and Wales, less the 218 towns, in 1904 was **125**, comparing very favourably with the rate in this County, which is undoubtedly high.

DISTRICTS.	Annual Mortality of Infants under one year of age per 1000 births.		Annual Mortality of Infants under one year of age per 1000 births.	
	Year 1904.		Average for 10 years, 1894-1903.	
Arnold ... ..	200	...	164	
Hucknall Torkard ...	197	...	169	
Worksop ... ..	178	...	172	
Eastwood ... ..	173	...	165	
East Retford Urban	172	...	146	
Newark Urban ...	166	...	138	
Kirkby-in-Ashfield ...	165	...	168	
Warsop ... ..	160	...	160	
Misterton ... ..	159	...	120	
Beeston ... ..	156	...	120	
Skegby ... ..	154	...	159	
Mansfield Woodhouse	145	...	189	
Carlton ... ..	138	...	146	



DISTRICTS.	Annual Mortality of Infants under one year of age per 1000 births.		Annual Mortality of Infants under one year of age per 1000 births.	
	Year 1904.		Average for 10 years, 1894-1903.	
Stapleford ... ..	138	...	139	
Hucknall Huthwaite	137	...	205	
Sutton-in-Ashfield ...	123	...	178	
Blyth and Cuckney...	123	...	120	
Basford ... ..	121	...	148	
Southwell ... ..	118	...	111	
Newark Rural ... ..	115	...	110	
Mansfield ... ..	112	...	160	
East Retford Rural...	99	...	107	
Bingham ... ..	97	...	96	
Leake ... ..	72	...	77	
West Bridgford ... ..	67	...	87	
Kingston and Ratcliffe	0	...	112	

The following extract from a lecture delivered to the Congress of the Royal Sanitary Institute at Glasgow in 1904, by Sir Richard Douglas Powell, Bart., M.D., President of the Royal College of Physicians of London, is worthy of grave consideration. It expresses the ripe experience of one of the most learned and distinguished physicians of the day, who has never been connected with the Public Health Service, and has no reason for wishing to magnify the importance of that branch of medicine.

“Public opinion has now ripened to the view that a large percentage of the British race is dwindling in physique. Of the truth of this there can be little doubt, and but for the strenuous efforts of the Public Health Departments, the rate of mortality would be appallingly on the increase instead of gradually declining.”

“Speaking in round numbers, a sixth, or 16 per cent. of our population die before they arrive at the age of 12 months. It takes another 20 years for another sixth to pass away; again another 20 years for the next sixth, and again in another ten years a further sixth.”



## INFANT MORTALITY.

ENGLAND AND WALES.			LONDON.		
PERIOD.	Annual Mortality of Infants under one year of age per 1000 births.		PERIOD.	Annual Mortality of Infants under one year of age per 1000 births.	
1851—1860...	...	154	1841—1850...	...	157
1861—1870...	...	154	1851—1860...	...	155
1871—1880...	...	149	1861—1870...	...	162
1881—1890...	...	142	1871—1880...	...	158
1891—1900...	...	154	1881—1890...	...	152
			1891—1900...	...	160

“One would, of course, expect a considerable death-rate in the first year, and especially in the first few days of life. Premature and difficult labours and unviable children are amongst the normal risks of that period. To what extent, then, is this enormous death-rate, which has not changed for fifty years, abnormal, adventitious, preventable? We hear much in protestation against the diminishing birth-rate in this country. *Do we take sufficient, reasonable care of those that are born?* And, what is more to the point, *are the circumstances under which so large a proportion of them die such as to damage the lives of the survivors?* The survival of the fittest is a conception only applicable in its brutality to wild life in the animal and vegetable kingdoms. If the game were fairly played, civilised life would be impossible.”

“An interesting work was written by Mr. Charles Ansell, Actuary of the National Life Assurance Society, in 1874, on statistics of families in the upper and professional classes, reckoned from probably some 20,000. From these statistics the straight dotted lines on the diagram are derived, showing the infant mortality below the age of one year at 89 per 1000 for males, and 70 for females respectively. There have been no further statistics of the same kind since this laborious work of Mr. Ansell, and probably there would be an appreciable diminution now upon the upper class mortality of 1874. But the figures are at least in sufficiently striking contrast with those of the general infant mortality, and the, to a certain extent, selected and minimised death-rate amongst

“the more thrifty poor, shown in the Prudential Assurance statistics. They may be said to represent the ideal rate. And, inasmuch as the general death-rate of the Registrar-General would, of course, include that of the upper classes, *a margin of at least 60 or 70 per cent. would seem to be attributable to conditions connected with the insanitation of poverty, most of which is theoretically and much of which is practically preventable.*”

“Now the point I want to emphasize as deductible, amongst others, from these tables is, that a mortality of one-sixth amongst infants within the first year must necessarily mean a lowered vitality, a lessened viability and developmental power amongst the survivors. It is, I believe, reckoned in war that for every man killed there are five or six wounded; and so with disease. Conditions which kill 16 per cent., maim and stunt and make weaklings of at least a proportion of those that remain, and cause them to become further decimated or weakened by such diseases as Rickets, Measles, Whooping Cough, Bronchitis, and Tuberculosis in early life.”

The magnitude of the evil resulting from the “lowered vitality of the survivors,” referred to in the last paragraph, has been pointed out for some years past in these Reports.

When we come to enquire into the causes of this lamentable mortality, we shall find they are multiple. A high birth-rate is often mentioned as one of the causes, but although a high birth-rate is frequently associated with a high infantile mortality, that is not invariably the case, showing that there is no necessary connection. Mansfield, with a birth-rate of 35·5, has an infantile mortality rate of only 112; while East Retford, with a birth-rate as low as 21·5, has an infantile mortality rate of 172; and Arnold, with a birth-rate of 29·7, has an infantile mortality rate of 200. That means that at Arnold, in 1904, one child out of every five born alive died before it reached the age of twelve months.

Among foreign countries, European Russia has a birth-rate of 48·6, with an infantile mortality of 272; and Hungary has a birth-rate of 40, with an infantile mortality of 224. But, on

the other hand, Norway and Queensland have birth-rates of 30·2 and 30·0 respectively, and an infantile mortality of only 94 and 103.

Neither does the converse hold that a low birth-rate is always associated with a low infantile mortality; for France, with a birth-rate of only 22·0—the lowest of any country—has one of the highest rates of infantile mortality, namely, 158.

The most prolific cause of the high infantile mortality is *diarrhœa*, to which 242 deaths were attributed in this County last year. The spread of this disease is favoured by insanitary surroundings and improper feeding, both of which assume greatly increased importance during a period of hot, dusty, weather.

Next comes “premature birth,” to which 208 deaths were attributed. These infants are not still-born—still-born children are not registered—but they live for variable periods; and there can be no doubt that many of them would live to become healthy children if their mothers knew how to feed them properly, and to take suitable care of them.

The only method of dealing with this important but difficult question that has proved useful, and has stood the test of experience, is the employment of Lady Health Visitors or Lady Inspectors—a plan which has been advocated in these Reports for two or three years past. It is interesting to see that “The Times,” in an article dated Nov. 21st, 1904, comes to the same conclusion:—

“To sum up, the unnatural concurrence of a stationary or increasing infantile mortality, with a falling birth-rate, which so seriously threatens the national vitality, finds its true explanation neither in external circumstances nor in the employment of women, but in the habits of the people. Throughout the scale, from mere thoughtlessness to actual murder, the same elements are seen to be at work, and to tend, in varying degrees, towards repudiation of the duties of life and their subordination to ease, comfort, pleasure, and self-indulgence. It follows that such remedies as *crèches* and municipal supplies of sterilized milk will have much the same effect as the doses or devices with which the bothered mother quiets her

fractious infant and aggravates its malady. Far better is the plan adopted by some towns of appointing lady inspectors, who may be reinforced indefinitely by voluntary assistants, to pay nursing visits. The results appear to be most encouraging. The mothers are said to welcome the attention and the help, and most of them are found teachable not only in regard to the details of feeding and nursing, ignorance and neglect of which are the great immediate causes of death, but also in regard to the whole maternal duty. The sense of responsibility is awakened in them, no doubt by the sympathetic interest taken in their affairs by the visitor. The remedy is not complete, but it is real, and so far as it goes, it touches the root of the matter. It illustrates once more the value of personal service, which is still the great force in human affairs."

### NOTIFICATION OF INFECTIOUS DISEASES.

During the year 1904 the number of cases of Infectious Disease notified amounted to 2,022. Of the notified cases 259 or 12·7 per cent. were removed to Hospital for treatment.

Year.		Number of notified cases.		Number removed to Hospital.		Per centage of removals.
1895	..	1355	..	11	..	·8
1896	..	1808	..	76	..	4·2
1897	..	1409	..	93	..	6·2
1898	..	1624	..	121	..	7·4
1899	..	2430	..	148	..	6·0
1900	..	2292	..	180	..	7·8
1901	..	1780	..	159	..	8·9
1902	..	1443	..	110	..	7·6
1903	..	1744	..	286	..	16·3
1904	..	2022	..	259	..	12·7

The number of cases notified formed 6·66 per 1,000 of the population of the whole County, compared with 5·9 per 1000 in 1903. The Urban Districts were affected to the extent of 6·79 per 1,000, compared with 6·8 in 1903; and the Rural to the extent of 6·48, compared with 4·6 in 1903.

### DISINFECTION.

The great need of most districts is an *efficient* steam disinfecting stove, which at present very few possess. The Central Midwives Board in their Rules evidently contemplated that a steam disinfecting stove would be available in all sanitary districts.

There will be manifest advantages, in the larger centres of population, in providing *a bath* and a discharging room in connection with the Steam Disinfecter. Without these, there must be great difficulty in disinfecting the person and clothing of midwives and nurses after attendance upon infectious cases. No Isolation Hospital can be considered complete without an efficient steam disinfecting stove, nor can the best results be expected from isolation: and yet there are only three good steam disinfecting stoves in the County.

Dr. Knight (Carlton) writes:—"A Steam Disinfecter, which would be so very useful to combat infectious diseases, has not yet been provided."

"We greatly need a Steam Disinfecter, especially in connection with Small Pox outbreaks. In these outbreaks much bedding and clothing has to be burnt, and compensation paid for the same. A steam disinfecter would save this."

Dr. Nesbitt (Sutton-in-Ashfield) writes:—"For the first two cases of Small Pox the mattresses were burnt, and for the remaining cases I hired the Disinfecter of a neighbouring authority, and had all clothing, rugs, mats, &c., from the infected houses thoroughly disinfected."

"The provision of an efficient high pressure Steam Disinfecter is one of the necessities for combating outbreaks of infectious disease."

Dr. Honsley (East Retford Rural) writes:—"There is no Steam Disinfecting apparatus for the disinfection of articles of clothing, bedding, &c."

Dr. Harvey Francis (Arnold) writes:—"This method, however, cannot be relied upon to sterilize bulky articles, such as mattresses or feather beds; the great want, of course, is a Steam Disinfecter for the purifying of things which cannot be boiled."



### SCHOOL HYGIENE.

The list of Schools which have been closed under Article 57 (formerly Article 88), on account of the prevalence of infectious disease, has been published regularly in the monthly Summary of Infectious Diseases, and it has been an unusually long one.

The closure of a school is a drastic remedy, which should not be lightly or hastily undertaken, on account of the serious interference with the progress of education. It is sometimes an efficient means of checking the spread of an epidemic, especially in small villages. But, if this result is to be expected, the closure must take place as soon as the first few cases are detected, and must not be delayed until the epidemic has already passed beyond control. In a large number of instances schools are not closed until the epidemic has spread so as to reduce the attendance to such small proportions that it is not worth while to continue to keep the school open. The epidemic then runs its natural course, little influenced by school closure.

In the case of Measles, in which disease over 90 per cent. of the deaths occur in children under five years of age, the interests of the Public Health will frequently be met by closing the *Infants' Department only*. In Diphtheria and Scarlet Fever also, the large majority of the deaths occur in children of tender age. Indeed, so strongly do the Medical profession feel that there are special dangers to health in the Infants' Departments of Elementary Schools, that the following resolution was passed at the recent Conference on School Hygiene in London, namely, "that having regard to the "greater risk of susceptibility to infectious diseases amongst "young children, no child should be permitted to begin formal "instruction in school classes under the age of six years."

And, in connection with this resolution, the Board of Education have made it clear, "that if the Local Education "Authority consider that a school is a Rural School, it would



“be within the power of the Local Education Authority, if they so desired, and even if accommodation existed, to exclude children between the ages of three and five from such school.”

It is necessary to point out the vital importance of *really efficient* disinfection of the school buildings and furniture after a school has been closed on account of the prevalence of infectious disease; and also of the value of periodical, though perhaps less drastic, disinfection in the absence of less serious epidemics. Where large numbers of children are congregated together daily in buildings often very imperfectly ventilated, the walls, ceiling, and furniture become impregnated with exhalations of organic matter. Among closely aggregated children an undetected case of infectious disease is afforded every opportunity of spreading, and also of infecting the building.

In connection with the question of the Sanitary Inspection of Schools, the following statement of Dr. Sykes, President of the Society of Medical Officers of Health, may usefully be quoted:—

“It is unfortunate, but only too true, that the term ‘sanitary inspection’ is limited in the mind not only of the general public, but also of municipal councillors and even of statesmen, to the inspection of drains, as if this were the be all and end all of sanitation. Never did such an idea cling more tenaciously or obstruct more effectually the true progress of preventive medicine as applied to the building of domestic, scholastic, and industrial premises.”

This point is further elucidated by the following from the *British Medical Journal*, January 28th, 1905:—

“We have in a previous article discussed the effects of eye-strain upon the brain; this should be watched for and prevented. An experienced teacher knows the signs of fatigue, the most common of which are: The attitude of the

“hand (as described by Dr. Warner); the attitude of the head;  
 “looming attitudes; failure of attention; yawning; sleeping in  
 “class. It should be part of the training of every teacher to  
 “learn to look out for such signs and to regard them as  
 “warnings that there is something wrong in the way the class  
 “is being managed. It may be that the room is badly  
 “ventilated or insufficiently lighted, that the lessons are too  
 “long and the periods of recreation too short, or, in individual  
 “cases, that the child comes to school already fatigued from  
 “want of sleep, fresh air, or food. In our opinion a good deal  
 “of what is set down to over-pressure is really due to the  
 “neglect of the common rules of hygiene. It is only by  
 “maintaining a proper balance between the intellectual and  
 “physical faculties that complete and harmonious development  
 “can be attained.”

In regard to the Sanitary Inspection of Schools, and especially to the question of *water supply*, Miss Constance Cochrane stated at the Conference on School Hygiene—

“Such experience as has fallen to my share respecting the  
 “sanitary inspection of elementary schools in rural districts,  
 “has, I believe, been very fairly representative of other schools  
 “of the same kind elsewhere.

“I am sorry to say that the sanitary condition of rural  
 “districts has in the majority of instances been much  
 “neglected in the past, and the schools have more or less  
 “shared the same fate as their surroundings. *One very urgent*  
*“matter is the absence at many schools of wholesome drinking*  
*“water for the children.*

“His Majesty’s Inspectors have not in the past been  
 “required to inquire into drinking water supply, excepting for  
 “new schools, and it is not an uncommon thing for the school  
 “water to be either badly polluted, or scarce, or altogether  
 “absent.”

*And finally, it is apt to be forgotten that the sanitary methods of an elementary school are an object lesson to the children, which they are slow to forget when they grow up. It cannot be expected that where the lavatories and closets are bad or deficient at school, a higher standard will be*

*looked for or valued by the children in their own homes when they grow up, and become the working men and women of the next generation.*

Nowhere is it more essential to teach that *ὑγιαίνειν μὲν ἀριστον ἔστιν* than in a Public Elementary School.

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—“ All the elementary schools in the district are more or less over-crowded, some, as at East Kirkby, to a very serious extent. I understand the matter is actively engaging the attention of the Notts. Education Committee. In this connection I should like to mention that I have often watched the scholars at all the schools during play time, romping, running, and sweating, as all healthy young creatures do. Play over, they rush with grimy hands and dust-covered faces to the water taps in the cloak room. There are no drinking vessels provided, each in turn puts the tap in his or her mouth. I have counted twenty youths quench their thirst in this fashion in less than five minutes. Equally primitive are their opportunities of ablution, hands and faces washed in cold water without soap. Then, again, only one clean towel is allowed in each week for a school of over 400 scholars. It should be mentioned that in some of the schools instead of one large sized towel, two small sized towels are placed in the cloak room on Monday morning; by Wednesday these articles are much dirtier, even to look at, than the very floor under the children's feet. Is it to be wondered at that schools are notorious centres for the spread of infectious diseases? A child, say, suffering from Ringworm will, under circumstances like these, infect half the school in a very short time. Think of what this means with undetected cases of Diphtheria attending school; equally so with Ophthalmia. The necessity for calling your attention to this serious deficiency in our school hygiene, forced itself on me whilst investigating the cause of an outbreak of Ophthalmia (muco-purulent) in the Mayfield district of the West Ward

“last summer. The infection was imported by a family recently come to reside there. The children had sore eyes and went to Kirkby schools; very soon scattered cases of Ophthalmia sprung up among children over the whole area embraced by these schools. In Mayfield for several weeks it assumed the form of an epidemic. Active treatment and exclusion from school ultimately stamped out the infection.”

Dr. Housley (East Retford Rural) writes:—“I have again to remark that there are schools without lavatory accommodation.”

Dr. Littlewood (Skegby) writes:—“The usual position of the offices attached to the Blidworth National Schools have, from time to time, been under discussion, and several inspections have been made by the Medical Officer of Health and Inspector of Nuisances at different periods. Their close proximity to the dwelling-house and class rooms has led to the suggestion that they be removed to a more distant site, easy of access, and quite incapable of giving rise to any nuisance. I strongly urge that this matter be taken in hand at once.”

Dr. Wills (Southwell) writes:—“The school closets and drainage require improvement at Walesby.”

### **MIDWIVES ACT, 1902.**

This Act, “to secure the better training of Midwives and to regulate their practice,” came into operation, except as otherwise provided, on April 1st, 1903.

It will be easily understood that an Act of this kind was required, when it is stated that there is reason to believe that at least 60 per cent. of the births in England and Wales are attended by Midwives; and it is known from the Report of the Registrar-General that there are about 2000 deaths of mothers, annually, from Puerperal Fever.

An epitome of the replies received from English and Welsh Counties with reference to the administration of the Act, issued by the Clerk of Committees of the Cumberland County Council in November, 1904, shows that of 61 County Councils, 48 had retained the administration of the Act in their own hands, seven had delegated it to District Councils, two had come to no decision, and four had not replied.

The operation of Section 2 of the Midwives Act, which made provision for existing Midwives being placed on the Roll, expired on March 31st, 1905. The complete Roll has not been issued at the time of writing; but it is believed that upwards of 22,000 Midwives have received certificates, and have been admitted to the Roll under this section. There need, therefore, be no fear of any dearth of Midwives at present.

In addition to the certified Midwives there are in this County at least 150 Midwives who practise, but have not received certificates. These women cannot now obtain a certificate except by examination, but they will be at liberty to continue to practise until April 1st, 1910, provided they do not call themselves Midwives, or profess to be specially qualified.

Section 1, sub-section (1) runs:—"From and after the first day of April, 1905, any woman who not being certified under this Act shall take or use the name or title of Midwife (either alone or in combination with any other word or words), or any name, title, addition, or description implying that she is certified under this Act, *or is a person specially qualified to practise midwifery*, or is recognised by law as a Midwife, shall be liable on summary conviction to a fine not exceeding five pounds."

Section 1, sub-section (2) runs:—"From and after the first day of April, 1910, no woman shall habitually and for gain attend women in child-birth otherwise than under the direction of a qualified medical practitioner, unless she be certified under this Act; any woman so acting without being



“certified under this Act shall be liable on summary conviction  
 “to a fine not exceeding ten pounds, provided this section shall  
 “not apply to legally qualified medical practitioners, or to any  
 “one rendering assistance in a case of emergency.”

During the year 1904, ninety-three certified Midwives notified their intention to practise in this County. Of this number 23 held the License of the Obstetrical Society of London; one a certificate from Queen Charlotte's Lying-in Hospital, London; and 69 received certificates and were admitted to the Midwives' Roll on the ground that they were in practise in July, 1901. Of these 69 it was found that 16 could neither read nor write, and nine could not write but could read a little. Thus 25 out of 69 Midwives were unable to write.

The whole of the 93 Midwives, who notified their intention to practise in this County in 1904, have been visited by the Nurse-Inspector, Miss Ross, who has inspected their case books, bags of appliances, &c., and investigated their mode of practise, as required by the Rules of the Central Midwives' Board. This has entailed upwards of 114 separate visits. In many instances the case books were not kept at all, or not properly. In very few instances did the bags of appliances of the untrained Midwives comply with the requirements of the Central Midwives' Board, and there was a great want of cleanliness. The work of inspection is only beginning, but it has already proved of considerable educational value. The large majority of the Midwives inspected, showed a willingness to comply with the Rules when they had been fully explained.

Much difficulty has been experienced in preventing Midwives from following the practise of laying out the dead, which the Central Midwives' Board do not allow. Many also object to wear washable dresses, upon which the Central Midwives' Board insist. When it is understood how easily infection may be carried by dirty clothing, the need of the strict enforcement



of this Rule is amply illustrated by the following statement of an untrained Midwife :—"That Nurse who has been here inspecting tells me I must put on a clean washing dress and a clean apron whenever I go to a confinement. Why, I always keep the oldest and dirtiest dress I have got for that work!"

During the year 44 "Records of Sending for Medical Help" were received from Midwives, in compliance with the Rules of the Central Midwives' Board; and three notices of still-birth.

Six Reports were received from Medical Officers of Health in the County upon cases of Puerperal Fever, under the arrangement made by the County Council at their meeting in April, 1904.

After full investigation it was found necessary to suspend two Midwives from practise for a fortnight in each case, to prevent the spread of infection, and for failing to comply with the Rules.

A very much larger number of Midwives have already notified their intention to practise in this County in 1905; but as the number is still increasing week by week, the statistics in this Report have been confined to the year 1904.

No steps have been taken towards establishing a training school for Midwives in this County; but the Higher Education Committee have arranged a short series of lectures to be given to the untrained Midwives in the County who have obtained admission to the Roll, and who will continue to practise, with a view of trying to improve their knowledge and usefulness.

### ISOLATION HOSPITALS.

Dr. Housley (East Retford Urban) writes :—"The Isolation Hospital accommodation is insufficient, for whereas formerly the difficulty was to induce parents to send their children to the Hospital, the difficulty now is to keep them out."

"The Longholme Isolation Hospital has been used exclusively for the treatment of Scarlet Fever patients."

“I have in former reports mentioned that this Hospital is not  
 “adequate for the district, as it is impossible to admit patients  
 “attacked by other infectious diseases. It is very desirable  
 “that a steam disinfecting apparatus should be provided.”

Dr. Harvey Franeis (Arnold) writes :—“All cases of in-  
 “fectious disease have to be treated at home, as there is no  
 “Isolation Hospital, execept for Small Pox, in the district, nor  
 “any outside to which patients can be removed.”

“In a fair number of cases, infeetious diseases can be  
 “satisfactorily treated at home; in the crowded dwellings of  
 “the poor, however, where there is usually deficient bedroom  
 “aeecommodation, and isolation cannot be properly earried out,  
 “it becomes a serious matter. In many eases, moreover, two  
 “or perhaps three girls in the family have to be kept away  
 “from work at the factory or laundry for fear of spreading  
 “infection, and no home-work can be done. In these cases it  
 “is a grave hardship from a monetary point of view.”

Dr. Knight (Carlton) writes :—“An Isolation Hospital for  
 “Searlet Fever and Diphtheria is also required; perhaps the  
 “County Council might help to devise some scheme of group-  
 “ing the distriets for the aequisition of such Hospitals.”

Dr. Wills (Blyth and Cuckney) writes :—“The priniepal  
 “improvement of the year has been the means of isolation  
 “which has been provided for Infeetious Diseases, so that the  
 “patient may be removed from the home, which is often too  
 “small to aeecommodate the family properly in the absenee of  
 “infectious disease, and where it is impossible to provide  
 “proper aeecommodation to prevent the illness spreading, not  
 “only in the family, but to the publie outside. For if a man  
 “goes to his daily work among other people from a room  
 “where his children are suffering from Scarlet Fever, there is  
 “serious danger to those with whom he mixes, and this is now  
 “in a great measure avoided by the excellent Hospital accom-  
 “modation which has been provided. It has removed or  
 “lessened a great public danger.”

“I have been surprised at the absence of much objection to the removal of children to Hospital, when the subject was explained. In three cases objection was made at first, but the privilege was eagerly accepted and appreciated when the benefit was explained.”

Dr. Housley (East Retford Rural), writing of Infectious Diseases, says:—“After receipt of medical certificates, I make enquiries and give directions, as there is no Hospital in the district to which these patients can be removed.”

Dr. Broadbent (Newark Rural) writes:—“Newark is proceeding with their Small Pox and General Isolation Hospital as speedily as possible, and your Authority having agreed to join with them, I hope before the year is out we shall be in a position to cope properly with dangerous epidemic disease.”

Dr Littlewood (Skegby) writes:—“There is little hope of effectively arresting an epidemic of Scarlet Fever, Measles, etc., until there are some better means of isolating early cases. Many counties throughout the country are establishing Isolation Hospitals, under the Isolation Hospitals Act, and it is to be hoped that the County of Nottingham will not long delay exercising their powers in the same direction.”

Dr. Broadbent (Newark Rural) writes:—“It would be a good thing if the New Infirmary would make arrangements for taking in advanced cases of Phthisis, as I feel certain that when the patients are confined to bed in small cottages, there is great danger of other members of the family becoming infected.”

### NOTIFIABLE INFECTIOUS DISEASES.

**Small Pox.**—During the year 1904 the County again suffered from Small Pox, but the mortality was very small. The cases notified numbered 101, among whom there were only 3 deaths. The Urban Districts had 84 cases with 2 deaths, and the Rural 17 cases with 1 death.

The following table gives the number of cases in the different Districts, together with details as to Vaccination:—

# SMALL-POX, 1904.

DISTRICTS.	CASES.							DEATHS.						
	TOTAL CASES.	Removed to Hospital.	Treated at Home.	No evidence of Vaccination.	Vaccinated in Infancy only.	Vaccinated only after infection by Small Pox.	Stated to have been Vaccinated but no scars.	Re-vaccinated.	TOTAL DEATHS.	No evidence of Vaccination.	Vaccinated in Infancy only.	Vaccinated only after infection by Small Pox.	Stated to have been Vaccinated but no scars.	Re-vaccinated.
MANSFIELD ..	2	2	..	1	..	..	..	* 1	..	..	..	..	..	..
NEWARK ..	12	11	1	1	9	..	..	† 2	..	..	..	..	..	..
BEESTON ..	2	2	0	0	2	..	..	..	..	..	..	..	..	..
CARLTON ..	28	26	2	16	12	..	..	..	1	..	..	..	..	..
EASTWOOD ..	1	..	1	1	..	..	..	..	..	..	..	..	..	..
HUCKNALL TORKARD ..	6	6	..	..	6	..	..	..	..	..	..	..	..	..
KIRBY-IN ASHFELD ..	3	3	..	1	1	..	1	..	..	..	..	..	..	..
MANSFIELD WOODHOUSE	4	4	..	..	4	..	..	..	..	..	..	..	..	..
SUTTON-IN-ASHFELD ..	9	8	1	2	7	..	..	..	..	..	..	..	..	..
WEST BRIDGFORD ..	4	3	1	1	3	..	..	..	..	..	..	..	..	..
WORKSOP ..	13	13	..	1	12	..	..	..	1	..	1	..	..	..
BASFORD ..	10	8	2	1	8	1	..	..	1	1	..	..	..	..
BINGHAM ..	2	2	..	..	2	..	..	..	..	..	..	..	..	..
LEAKE ..	1	1	..	..	1	..	..	..	..	..	..	..	..	..
MISTERTON ..	4	1	3	2	1	1	..	..	..	..	..	..	..	..
	101	90	11	27	68	2	1	3	3	2	1	..	..	..

\* "One good infant mark ; re-vaccinated 4 years ago, but took badly."

† One of these was re-vaccinated 2 years previously, but had only 3 marks altogether. The other person had been re-vaccinated 30 years previously.

It will be seen from the above table that the cases were spread over 15 Districts, and the only one specially affected was Carlton. In the Reports of the Medical Officers of Health of the different Districts, the origin of the outbreaks was attributed to tramps in 4 instances.

Of the 101 cases, 90 were isolated in hospitals of various kinds, and 11 were treated at home.

No additional hospital accommodation was provided for Small Pox in 1904. The difference of opinion which continues to prevail, both as to the extent to which Small Pox spreads from hospitals, and as to the manner in which it spreads, militates against any improvement in the methods of isolation.

It is no wonder that Local Authorities are much puzzled as to the steps they should take in the isolation of Small Pox when so much difference of opinion exists in the medical profession. This difference of opinion is remarkably well illustrated by the following quotations. In the well known trial in the High Court of Justice in February, 1904, before Mr. Justice Farwell (*The Attorney-General and Others v. The Mayor, Aldermen, and Citizens of Nottingham*), Dr. Hope, Medical Officer of Health for Liverpool, was asked:—

Question 2271. “Are you able to say from your own experience whether there has been any case of Small Pox in “the neighbourhood of that Hospital\* which you can trace to “the presence of the Hospital itself?”

Answer. “No; none. I may say that extreme pains are “taken in Liverpool to trace the connection and origin of cases “of Small Pox, the object of doing it being of course to suppress “outbreaks of Small Pox, and by patient, continuous, and “painstaking observations, these cases are traced out.”

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\* The Park Hill Hospital, Liverpool.



On the contrary, the very exhaustive and detailed official Report to the Local Government Board by Dr. R. J. Reece, one of the Board's Medical Inspectors, on Small Pox and Small Pox Hospitals at Liverpool, 1902-3, published in 1905, ends with the following statements to the opposite effect:—

“On consideration of all the facts here recorded, there can be no question as to the conclusions to be arrived at; namely, that

“(1) Inhabited areas within a mile of each of the three  
“Liverpool Small Pox Hospitals have suffered more  
“severely from Small Pox than the city as a whole.

“(2) Exceptional incidence of Small Pox within these  
“areas has corresponded in point of time with the  
“use of these Hospitals for the treatment of acute  
“Small Pox cases.

“(3) Broadly speaking, within these Hospital areas, the  
“dwellings nearer to Hospital have sustained a far  
“heavier incidence of Small Pox than those further  
“away.

“The above experience is most conspicuously illustrated  
“in respect of Park Hill, a large Hospital receiving many  
“Small Pox patients at the height of the epidemic. But it is  
“also shown in the case of the smaller Priory Road Hospital,  
“particularly in the earlier months of the epidemic, when this  
“Hospital alone was used for Small Pox isolation. Similarly  
“it is indicated in the case of Fazakerley Hospital, which  
“being situated in a much more sparsely populated district  
“than Priory Road or Park Hill Hospitals, affords data of  
“comparatively less value in this connexion than the other  
“Hospitals.

“Looking to all the circumstances which have come under  
“review, I am compelled to consider that the influence of these  
“Hospitals has been responsible in material degree for the  
“considerable and sustained prevalence of Small Pox in Liver-  
“pool in 1902-3.”

On a similar subject it is of interest to quote the conclusion from the Report to the Local Government Board by Dr. G. S. Buchanan, one of the Board's Medical Inspectors, on Small Pox in Gateshead and Felling, 1903-4, in relation to Sheriff Hill Hospital. The Report is dated November, 1904, and was published by the authority of the Board.

“ On review of the data above given, there can be no doubt  
 “ that the isolation of Small Pox cases in Sheriff Hill Hospital  
 “ has been attended by a conspicuous prevalence of Small Pox  
 “ in the inhabited areas in its vicinity, both in the Borough of  
 “ Gateshead and in Felling. In my judgment the use of this  
 “ Hospital has been responsible directly or indirectly for a  
 “ material portion of the epidemic which has occurred during  
 “ 1903-4 in these two administrative districts. I have no  
 “ hesitation, therefore, in recommending that Sheriff Hill  
 “ Hospital should no longer be used for the isolation of Small  
 “ Pox.”

Dr. Wills (Mansfield) writes :—“ The need for the protection of the community by the vaccination of tramps has been  
 “ strongly emphasized all over the country recently by the  
 “ outbreaks of Small Pox, which have repeatedly originated  
 “ through tramps passing from place to place, and causing an  
 “ unjust burden to the public in providing hospital accommodation at great expense.”

“ It is clear that the tramps are carrying Small Pox to the  
 “ lower class of lodging-houses, and the compulsory regulations  
 “ to compel re-vaccination would stop this, and protect the  
 “ public from an unjust burden.”

Dr. Wills (Newark) writes :—“ I was informed on June 30th  
 “ by the Medical Officer of Grantham that Small Pox contacts  
 “ were coming through Newark to Southwell, but no names  
 “ were given. Vaccination was refused by the Newark contacts,

“and on July 5th I was informed by the Medical Officer of  
 “Lincoln that a contact, Atkinson, was coming to Newark, but  
 “unfortunately we have no means of controlling them; they  
 “not only refuse to be vaccinated, but keep repeatedly intro-  
 “ducing Small Pox into the town, and they have to be isolated  
 “(after endangering the towns and neighbourhood) at a great  
 “expense, although sympathy is always felt for those who are  
 “seeking work. It is not right that the public safety should  
 “be at the mercy of the tramp. If the law made the vaccina-  
 “tion of tramps and contacts compulsory, we should have  
 “escaped the present trouble in all probability; at least we  
 “should have escaped the major part of it, caused by the  
 “spread from the first case imported.”

### CHICKEN POX.

During the prevalence of Small Pox, Chicken Pox was made notifiable in several districts for variable periods.

Dr. Jones (Hucknall Torkard) writes :—“Chicken Pox was  
 “made notifiable during the months April to September inclu-  
 “sive, and during this period 11 notifications were received.”

“I personally visited every case of Chicken Pox notified,  
 “and satisfied myself as to its nature.”

**Scarlet Fever.**—The following table shows the prevalence and fatality of this disease during the past 10 years. Whatever difference of opinion there may be as to the value of hospital isolation, *as at present carried out*, in checking the spread of Scarlet Fever, it is difficult indeed to doubt the need of removing cases from such places as schools, common lodging houses, dairies, provision shops, clothing shops, etc., etc. And it is abundantly clear that the Hospitals to which cases of Scarlet Fever are removed need to be as perfect of their kind as the knowledge of the day will allow.

	SCARLET FEVER.		
	Cases.	Deaths.	Case Fatality per cent.
1895	540	26	4·8
1896	833	30	3·6
1897	824	29	3·5
1898	732	24	3·2
1899	1693	44	2·6
1900	1485	45	3·0
1901	1080	21	1·9
1902	829	13	1·5
1903	870	15	1·7
1904	984	20	2·03

Dr. Wills (Mansfield) writes:—"I have prepared tables to show the contrast between the 10 years before notification and isolation were in force with 10 years when these means were in use. It will be seen that whatever the results in other places, Mansfield has been fortunate in being able for 14 years to avoid the fatal outbreaks of the disease which formerly occurred."

"You will see the curious and great increase of deaths from Measles and Whooping Cough, side by side with the curious and great decrease of deaths from Scarlet Fever."

Dr. Wills (Blyth and Cuckney) writes:—"Cases were notified at Cuckney and Norton during November, which were taken to the Welbeck Hospital. Three cases notified during December were taken to the Welbeck Hospital, and two were taken from Langwith to your Isolation Hospital at Carlton during the same month. It has been a very great boon to have had these cases isolated in Hospital, for they represented 14 centres of infection, and it is probable that whatever care was exercised the infection would have spread. In no case was there proper accommodation at the homes. In 6 cases there were rather large families, and the illness would probably have spread to other members of the families. The disease was stamped out as it were at its commencement."

## DIPHTHERIA AND MEMBRANOUS CROUP.

This disease continues to increase rapidly, as the following table plainly shows :—

	DIPHTHERIA and MEMBRANOUS CROUP.		
	Cases.	Deaths.	Case Fatality per cent.
1895	88	35	39·7
1896	142	38	26·7
1897	137	35	25·5
1898	119	26	21·8
1899	157	27	17·2
1900	182	32	17·5
1901	186	41	22·0
1902	209	29	13·4
1903	272	35	12·8
1904	447	63	14·1

It might at first sight be supposed that the sudden increase of cases in 1904 was due to a change of medical opinion resulting in the notification of many cases which were formerly considered to be septic sore throats. A glance at the table shows that for the last 3 years the same class of cases have been notified, since the case fatality has varied very slightly. Previous to the year 1900 notification was not compulsory and universal, so that the number of cases is probably not quite complete, though the number of deaths registered is complete. Consequently the case fatality is a little too high. During the last 3 years the use of anti-toxin has become more general in the country districts, and has no doubt reduced the proportion of deaths.

Diphtheria is a far more serious cause of loss of life than Scarlet Fever, and last year 63 deaths were registered from Diphtheria compared with 20 from Scarlet Fever. Different portions of the County suffered to a very variable extent.



Reference to the Registrar-General's Annual Reports, and to the experience of other Midland counties shows a similar variation. There is no general increase of Diphtheria affecting the whole country.

It should be clearly understood that Diphtheria spreads by personal infection from case to case, and that the influence of "drains" is quite secondary. This was plainly shown at East Leake, where the sanitary condition has been unaltered for many years; but Diphtheria remained absent until the advent of a convalescent case from London, which started an epidemic lasting more than  $1\frac{1}{2}$  years.

There are a great many instances on record where outbreaks of Diphtheria have been traced to infected milk; but "*there is no evidence of the dissemination of Diphtheria by the water supply.*"

The spread of Diphtheria is clearly favoured by the aggregation of young children in the elementary schools; bad ventilation and close personal contact of the children affording every facility for the propagation of the disease, through the instrumentality of undetected or convalescent cases.

The failure of school closure for short periods to stamp out an epidemic is well illustrated at East Leake; and at Beeston the sudden drop in the number of cases occurred before the short period of school closure came into operation; while sporadic cases continued to arise for many months.

There is probably no infectious disease in which properly arranged hospital isolation is more valuable, but yet extremely little hospital accommodation for Diphtheria exists in this County. Efficient hospital isolation is the direction in which relief from the continued spread of the disease is to be sought with most prospect of success.

The free supply of Anti-toxin for poor cases, and the gratuitous bacterial examination of throat swabs from doubtful or convalescent cases, are essential means for combating an epidemic, if the most powerful resources of modern science are to be available.

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—" Six cases of Diphtheria and one of Membranous Croup were notified."

" An investigation of the various causes failed to show that sanitary defects played an important part in their causation."

Dr. Hunter (West Bridgford) writes :—" I have carefully investigated the cases of Diphtheria, and have not been able to satisfy myself that these were due to any special insanitary condition of the houses in which they occurred. They seemed to be fairly distributed amongst houses, whether these had in-door fresh water closets, out-door waste water closets, or the old privy middens with ash pits."

Dr. Wills (Blyth and Cuckney) writes :—" In this outbreak isolation in the Hospital, to which all the Old Coates cases were sent, was most useful ; for in the case of Diphtheria it is very difficult to persuade the mothers to continue isolation after the patient becomes apparently well, although it is well established that the infection remains for a considerable time after apparent recovery, and unless the patient is removed other members of the family become infected."

**The Need of a Laboratory.**—One of the greatest needs of the County is an arrangement by which doubtful disease products could be sent to a Laboratory of repute for examination, as has been the practice for some time in many large towns, and a few counties. The most needful examinations are those of the throat for Diphtheria bacilli, of the blood for the Widal reaction of Enteric Fever, and of the sputum for Tubercle bacilli in doubtful cases of Consumption. Disease is widely spread by mild and unrecognised cases, many of which it is

impossible to diagnose by clinical experience alone, without the aid of bacterial methods, which can only be employed in a well equipped Laboratory. These methods are required much more for preventing the spread of disease than for the successful treatment of the individual patient. Hence provision for the free examination of doubtful disease products becomes the interest of those public bodies whose duty is the *Prevention* of disease.

**Enteric Fever.**—Last year the number of cases, and the number of deaths were exactly the same as in 1903, though they were differently distributed between the Urban and Rural districts.

	ENTERIC FEVER, including "Continued."		
	Cases.	Deaths.	Case Fatality per cent.
1895	300	44	14·6
1896	395	58	14·9
1897	277	41	14·8
1898	431	63	14·6
1899	343	46	13·4
1900	388	51	13·1
1901	257	34	13·2
1902	160	22	13·7
1903	187	31	16·5
1904	187	31	16·5

Dr. Corcoran (Leake) writes :—"Eight cases of Enteric Fever occurred during the summer at Costock. The outbreak was traceable to a polluted water supply, and was spread by "ginger beer made from the polluted water."

Dr. Beaman (Misterton) writes :—"During the year four cases came under my notice, and one ended fatally. In three of the cases, Trent water was used for drinking purposes. As I have frequently pointed out, this water is unfit to drink in "an unboiled and unfiltered state."

## ENTERIC FEVER AND THE POLLUTION OF WATERCRESS.

The Medical Officer of Health to the London County Council has presented a Report on the condition of watercress beds in the County of London, together with Reports by the Chemist and Dr. A. Houston as to the results of the chemical analysis and bacteriological examination of samples of the water taken from the beds. "The Medical Officer estimates "that the annual consumption of watercress in London amounts "to 1500 tons. All the known beds supplying cress to London "within 50 miles of the County were visited. These beds, 120 "in number, varied in size from less than a quarter of an acre "to nearly 40 acres, and in most cases samples of water were "taken from each set of beds. The water was ascertained to "be derived from various sources. The condition of the beds "varied considerably, very strict precautions being taken in "one or two instances to prevent risk of contamination, while "in some cases the beds were exposed to the risk of pollution "from surface drainage, manure, waste liquids from offensive "trades, house refuse, cesspools, piggeries, and the effluents "from sewage farms. The results of the inquiry show that "cress of the best quality can be grown under conditions to "which, from a public health point of view, no exception can "be taken ; and, owing to the extent to which careful washing "eliminates impurity, there is no material risk in consuming "the watercress supplied from most of the beds. Objection "must, however, be taken on topographical, chemical, and "bacteriological grounds to certain beds, and efforts should be "made to prevent the consumption of watercress from "them."

Very little watercress is grown in the County of Notts., though much may be consumed ; and useful lessons may be drawn from the Report of Sir Shirley Murphy.

**Puerperal Fever.**—This term is still retained for the sake of convenience, and is intended to include pyæmia, septicæmia, sapræmia, and peritonitis, occurring during the puerperium. The following table gives the number of *notified* cases, and deaths during the last 10 years :—

	PUERPERAL FEVER.		
	Cases.	Deaths.	Case Fatality per cent.
1895	24	11	45·8
1896	18	2	11·1
1897	21	9	42·8
1898	12	5	41·6
1899	28	14	50·0
1900	21	18	85·7
1901	23	18	78·2
1902	20	9	45·0
1903	16	9	56·2
1904	17	14	82·3

The appalling fatality of 82·3 per cent. in 1904 does not indicate any unusual severity in the cases, but points to the fact that many cases which recover are not notified. Some of these unnotified cases are attended by Midwives, but some have been attended by Doctors, who appear to be unaware that Puerperal Fever is a notifiable disease, and that notification is obligatory.

**Plague.**—The fear of a serious invasion of this country by bubonic plague was great a few years ago, but has largely subsided, although plague continues to spread in India, and many of our Colonies and Dependencies have been attacked, some of them several times.

During the year 1904 we heard little of plague being brought to this country, and any cases detected in the shipping at the seaports were isolated, and did not spread.



During May of this year (1905), however, four cases of plague—a man, his wife, and two children—were discovered at Leith. One has proved fatal. They were not imported cases; the man worked on the tramway lines, and the woman at a rag store. The source of infection was uncertain, but infected rats were probably the real source. The disease did not spread.

### NON-NOTIFIABLE INFECTIOUS DISEASES.

**Measles.**—A great epidemic of Measles is just terminating, but the following table shews that it had hardly commenced in 1904. There had been three years in succession with a small number of deaths, indicating an absence of widespread epidemics. The severity of the epidemic of 1905 is thus partly explained by the existence of an unusually large number of susceptible children, and an account of it will be deferred till next year's Report.

Year.	Deaths from Measles.	Year.	Deaths from Measles.
1895	35	1900	67
1896	230	1901	105
1897	47	1902	77
1898	62	1903	42
1899	142	1904	50

**Whooping Cough.**—There was a moderate epidemic of this disease, as the following table shews :—

Year.	Deaths from Whooping Cough.	Year.	Deaths from Whooping Cough.
1895	61	1900	109
1896	51	1901	71
1897	129	1902	71
1898	40	1903	88
1899	37	1904	107

**Influenza** occurred in a sporadic form during the whole year, but never became seriously epidemic. It shows no sign of disappearing, although the type is not so fatal as in the epidemics of the early nineties. Influenza is responsible for many fatal cases of Pneumonia ; and, in addition, in 1904 was credited with 44 deaths.

Year.	Fatal Cases of Influenza.
1900	152
1901	23
1902	47
1903	45
1904	44

**Diarrhœa.**—This disease is mainly of importance in connection with infant life, and in hot, dry seasons assumes the characteristics of a specific epidemic disease. The statistical uncertainties consequent upon a want of uniformity in nomenclature have been already mentioned under the heading of Infantile Mortality. In 1904, there were 242 deaths certified from Diarrhœa, and 66 from Enteritis. Of this total of 308 deaths, 251 occurred in infants under one year of age, and 39 in children between one and five. The remedy most likely to prove effective is the personal instruction of the mothers by lady Health Visitors in the details of cleanliness and the proper feeding of infants.

Year.	Deaths from Diarrhœa.	Year.	Deaths from Diarrhœa.
1895	201	1900	158
1896	88	1901	205
1897	166	1902	85
1898	240	1903	123
1899	233	1904	242

**Tuberculosis.**—The following table shews the number of *deaths* from Phthisis or Consumption (that is, tubereulosis of the lungs), and also from “Other Tuberculous Diseases,” that is, tuberculosis of any other organ except the lungs. We have no record of the *cases*, as tubereulosis is not yet a notifiable disease. It is frequently estimated that for each death there are 6 other cases which have not yet terminated. That method of ealculation would give 2,538 persons suffering from tubercle in the county.

Year.	Deaths from Phthisis.	Deaths from other Tuberculous Diseases.
1895	287	..
1896	233	..
1897	308	..
1898	303	..
1899	266	..
1900	256	184
1901	238	153
1902	229	173
1903	262	150
1904	256	167

The proportion of deaths per 1,000 of the population is given in the following table.

## 1904.

	Phthisis.	Other Tuberculous Diseases.	Both together or <i>all</i> Tuberculous Diseases.
Whole County .. ..	·84	·55	1·39
Urban Districts .. ..	·79	·59	1·38
Rural Districts .. ..	·92	·48	1·40

## 1903.

	Phthisis.	Other Tuberculous Diseases.	Both together or <i>all</i> Tuberculous Diseases.
Whole County .. ..	·88	·50	1·39
Urban Districts .. ..	·80	·53	1·34
Rural Districts .. ..	1·01	·46	1·48

A comparison of the two years shews a very slight variation. Again, the Rural Districts, notwithstanding the benefits of "country air," have suffered from Tubercle more severely than the Urban Districts. This is probably due to the co-operation of many causes. The most tangible are the crowded sleeping rooms and bad ventilation of country cottages, in which the women and children spend so large a proportion of the 24 hours. It is probable, too, that better food is obtainable in the more thriving urban districts. The "housing problem" in country districts is a very serious matter; but probably some improvement would follow the general adoption and observance of building bye-laws, which are referred to again on pages 77-80.

The need for the adoption of a bye-law against the filthy habit of spitting in public rooms and carriages has been mentioned in previous Reports, and the model adopted by several Authorities has been quoted.

The following table gives the death-rates of the different districts for *all* tuberculous diseases during 1904. The second table gives the ten years' average, but for Phthisis (lung tuberculosis) only. There is no real advantage in separating Phthisis; but, unfortunately, the statistics in the possession of the County Council relating to "all tuberculous diseases" do not go further back than the year 1900.

#### Death-rate from all Tuberculous Diseases, 1904.

Districts.	Rate.	Districts.	Rate.
Hucknall Torkard .. ..	2.24	Mansfield Woodhouse ..	1.22
Sutton-in-Ashfield .. ..	2.22	East Retford Urban ..	1.16
Newark Urban .. ..	2.20	Arnold .. ..	1.11
Skegby .. ..	2.00	Blyth and Cuckney ..	1.05
Beeston .. ..	1.96	Kirkby-in-Ashfield ..	0.94
Bingham .. ..	1.70	Newark Rural .. ..	0.88
Basford .. ..	1.58	Misterton .. ..	0.83
Hucknall Huthwaite ..	1.55	Leake .. ..	0.80
Stapleford .. ..	1.49	Carlton .. ..	0.75
Mansfield .. ..	1.36	Worksop .. ..	0.63
Eastwood .. ..	1.34	West Bridgford .. ..	0.42
East Retford Rural ..	1.26	Warsop .. ..	0.00
Southwell .. ..	1.25	Kingston and Ratcliffe ..	0.00

## Death-rate from Phthisis for the ten years 1894–1903.

Districts.	Rate.	Districts.	Rate.
Sutton-in-Ashfield .. ..	1·86	Worksop .. ..	0·89
Newark Urban .. ..	1·37	Eastwood .. ..	0·86
Beeston .. ..	1·21	Misterton .. ..	0·85
Mansfield .. ..	1·11	Hucknall Torkard .. ..	0·82
Bingham .. ..	1·10	West Bridgford .. ..	0·81
Mansfield Woodhouse .. ..	1·05	Kirkby-in-Ashfield .. ..	0·79
Newark Rural .. ..	1·05	Hucknall Huthwaite .. ..	0·78
Stapleford .. ..	1·03	Skegby .. ..	0·75
Southwell .. ..	1·01	Kingston and Ratcliffe .. ..	0·72
Arnold .. ..	0·98	Leake .. ..	0·70
East Retford Urban .. ..	0·91	Blyth and Cuckney .. ..	0·69
Basford .. ..	0·90	East Retford Rural .. ..	0·69
Carlton .. ..	0·89	Warsop .. ..	0·57

\* “In the European Countries that furnished returns, Austria and the German Empire head the list with the highest relative mortality from pulmonary tuberculosis, the average death-rate from this disease being as high as 3·49 and 2·13, respectively, per 1,000 of the population living; on the other hand, Italy and England and Wales are at the bottom of the list, with the comparatively low average rates of 1·24 and 1·34, respectively, per 1,000 of the population living.”

“During the past 25 years, in England and Wales and in Scotland there has been in progress, with slight fluctuations, a steady decrease in the rate of mortality from pulmonary tuberculosis. In Ireland, however, where the proportionate mortality from this disease is comparatively high, no such improvement can be recorded. In Austria and Switzerland, speaking generally, the rate shows little or no improvement; while in the German Empire and in the Netherlands a marked reduction is shown in the rate of mortality from this disease.”

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\* 66th Annual Report of the Registrar-General, p. xxxvii.



Sir Richard Douglas Powell, in his Lecture to the Congress of the Royal Sanitary Institute, at Glasgow, said:—"I will draw your attention to a fact which is not in my experience sufficiently recognised even by the medical profession, and which is as yet quite unknown to the public: that whilst the tubercle bacillus is essential to tuberculosis, it is to the agency of these other micro-organisms, the streptococci, diplococci, influenza bacilli, and the like, but chiefly the septic organisms, that the conditions for the invasion of tubercle are commonly established; and to their aid also the destructive changes in the lungs are largely due, and the hectic symptoms of the disease mainly attributable. Once grasp this fact, and the main principles of prevention and of the treatment of consumption are realised and understood."

"I would further draw attention to some grave defects in our civilization which tend to *lower resistance to all diseases, and especially to tuberculosis*, which are remediable, and which only require national determination and resourcefulness for their removal. I have shown how the mortality from consumption has fallen with generally improved sanitation and amendment of the conditions of life."

"The fall of the death-rate from consumption is, to at least a great extent, coincident and commensurate with the decline in mortality from other causes. *The fight against consumption is only a part of a more general campaign*, and whilst concentrating our attack upon a particular poison microbe we must co-ordinate it with the strategy of a larger battle-field."

### MILK SUPPLY.

The subject of milk supply, and its possible connection with the spread of infectious disease, continues to be much before the public. The question of the spread of tubercle by milk is still awaiting the final Report of the Royal Commission

on Tuberculosis; but, in confirmation of their interim Report published last year, the following observations from Germany upon the "unity of the tubercle bacillus" should give occasion for serious thought:—

\* "Even those who hold most tenaciously to Koch's contention in favour of the duality of human and bovine Tuberculosis must admit that the evidence which he adduced was almost wholly of a negative character, and the results of subsequent researches have been such as to leave no reasonable doubt as to the essential identity beneath superficial and accidental differences of the bacilli of Tuberculosis, avian as well as mammalian. This has recently been demonstrated by the almost exhaustive investigations reported by Dr. Paul H. Römer, of Marburg, embracing every possible combination and permutation of factors save only inoculation of the human subject. He experimented with no fewer than 52 strains derived from man, cattle, and rodents, and two from birds; these he passed in varying sequence through cows, sheep, goats, horses, guinea-pigs, rabbits, white mice, and fowls."

"The general results of his experiments were that all animals were susceptible to infection by each and every strain, though some methods of culture and the passage through particular species of animals enhanced, and others enfeebled, the virulence of certain strains, and that consequently smaller or larger doses might be required."

"Generally a strain more virulent than another to one animal was found to be so to all others under all conditions."

"Intentional experiments on man are, of course, inadmissible, though from time to time we hear of undesigned and accidental inoculations with bovine tubercle, an instance of which was recently reported by E. Schindler, of Prague."

In addition to the question of tubercle, many other diseases are unquestionably disseminated by milk not unfrequently. Amongst these Enteric Fever, Scarlet Fever, and Diphtheria

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\* *Lancet*, March 11th, 1905; page 658.

are the most important; but a less dangerous form of sore throat is also spread by milk, as the following quotation—which is only one of many—will show:—

\*EPIDEMIC SORE THROAT TRACED TO INFECTED MILK.

“An extensive and severe outbreak of a disease of which the most prominent symptom was sore throat, occurred in Colechester during the second half of April. The outbreak involved apparently 500 to 600 persons, and was sharply localized to the western parts of the town, the cases of sore throat in other parts being not above the average. The essential symptoms were those of septic sore throat, with considerable constitutional disturbance and high temperature. Bacteriologically they all showed streptococci. Some of the cases clinically very closely resembled Diphtheria, and could be diagnosed only by bacteriological investigation. Many cases were very severe, but there were no deaths. Of 140 cases of sore throat reported to the Medical Officer of Health from all over the town, 123, or 88 per cent., were from one particular milk vendor, while of those from the part of the town specially affected, no less than 96·6 per cent. of the households had their milk from the same milkman. The house-to-house inquiries showed the same incidence even more clearly. In the 57 houses supplied by this milk vendor there were 53 cases of sore throat, while in the 217 houses from all the other milk dealers, there were only 13 cases, and this among a population of 941 people. The implicated milk vendor obtained his milk from six farms, and Dr. Savage in his paper showed that one particular milk round was especially affected, and that this usually received the milk from one particular farm. All the six farms were visited, and the cows examined. One of the cows of the suspected farm had extensive mastitis, while there had been and were a number of cases of sore throat on this farm. All the cows on the other farms were apparently healthy. After the milk from this diseased cow was stopped, there were no further cases, as far as could be made out. Dr. Savage in his paper discussed the cause of the outbreak, and said that he could come to no other conclusion than that the outbreak was due to consumption of milk infected from this diseased animal.”

Sir Shirley Murphy, one of the most experienced Medical Officers of Health in this country, makes the following observations in regard to the purity of the milk supply, which are worthy of serious consideration:—

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\* *British Medical Journal*, May 27, 1905, p. 1165.

"In a number of the annual reports, statements are made which show recognition of the need for the supply to London of milk which is unpolluted, and frequent reference is made to efforts to secure the protection of milk against contamination in the milkshops by requiring the milk vessels to be covered with muslin or other similar material. Many, however, would go beyond this requirement, and would insist upon the milk being stored apart from such articles as are usually sold by the keeper of the 'general shop' who, for the convenience of his customers, receives daily a few quarts of milk which he usually retails to them in halfpenny-worths."

"There is complete agreement as to the need of preservation of the milk from conditions of dirt, and there is no doubt that premises in which a variety of goods are sold, and in which from the nature of the other business or businesses carried on, the atmosphere must be frequently pervaded with dust, are unsuitable for the storage of milk, a material which is an excellent medium for the cultivation of micro-organisms. There is, therefore, much ground for insisting upon conditions of greater cleanliness in connection with the storage of milk than of other articles of food."

"It is, however, not in the milkshop, nor on the railway, that the chief source of contamination of milk occurs. The most frequent cause of contamination, and that which the consumer has a right to demand shall as far as practicable be excluded from the milk, is the excremental matter of the cow which, through the befouled udder of the cow and the soiled hands of the milker, contaminates the milk at the time of milking. Many dairy farmers do not yet recognise the necessity for cleaning the cows, for the washing of the milker's hands, and for the wearing of clean overalls, without all of which precautions the milk cannot be preserved from contamination. The enforcement of these conditions obviously most concerns the communities in which the milk is consumed; the difficulty which stands in the way of success is that the authorities which represent the consumers, have no jurisdiction in such matter in the districts in which the milk is produced."

"The need for speedy identification of a farm, the milk from which is found to be causing infectious disease in London, has, in the past, been manifested on a number of occasions. Hence the desirableness of every Medical Officer of Health knowing the sources of milk supply to his district, and the channels by which the milk is supplied."

The following statement by the President of the Royal College of Physicians of London, though somewhat strong, is the result of knowledge, uninfluenced by personal considerations, and quite independent :—

\* “The source of the milk supply to our towns is not “adequately inspected. Clean milk obtained with clean hands “and forwarded in clean vessels, and without fraudulent “additions or removals, is not obtainable by the poor. The “poor probably pay a great deal more for the milk they get “than the rich. Can it not be secured to them that they get “at least what they pay for? There is no adequate punish- “ment for that form of theft which takes the shape of “devitalizing milk, by depriving it of cream, diluting it with “dirty water, and adding other fraudulent constituents. If “these poor babies had votes, would their interests be better “cared for?”

Notwithstanding the very serious importance of the purity of milk to the public health, as judged by those most capable of forming an opinion, it will be seen from the abstracts which follow, that there are still four districts which do not take the most elementary precautions required by the Dairies, Cowsheds and Milk-shops Orders, and eight others where the measures are incomplete and inefficient. This is entirely apart from the Order of 1899, dealing with tuberculosis of the udder, the administration of which is somewhat difficult.

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\* Lecture to the Congress of the Royal Sanitary Institute at Glasgow, by Sir Richard Douglas Powell, Bart., K.C.V.O., M.D., F.R.C.P.



# DAIRIES, COWSHEDS and MILK-SHOPS ORDERS, 1885, 1886 and 1899.

Questions issued to the Urban and Rural District Councils, by direction of the County Council, Aug. 5th and Sept. 16th, 1901.

QUESTIONS—1		2	3	4	5
DISTRICTS.	Are Cowkeepers, Dairy-men and Purveyors of Milk registered in the Borough or Urban or Rural District, according to Article 6 (1) and (2) of the Dairies, Cowsheds & Milk Shops Order of 1885?	Have Regulations been made under Article 13 of that Order?	If so, are they in the form of the Model Regulations of the Local Government Board?	Are the requirements of Articles 9, 10, 11 and 12 of the Order of 1885, duly complied with through out the Borough or Urban or Rural District?	Have any steps been taken under the Dairies, Cowsheds, and Milk Shops Order of 1899, to ascertain whether the milk of cows suffering from Tuberculosis of the Udder is being sold for human food?
ABSTRACT		OF REPLIES.			
URBAN	Yes. 8. No. 7.	Yes. 4. No. 11.	Yes. 1. No. 11. * Doubtful. 3.	Yes. 9. No. 6.	Yes. 2. No. 13.
RURAL	+ Yes. 10. No. 0.	Yes. 5. No. 5.	Yes. 2. No. 7. Doubtful 1.	Yes. 6. Modified. 4. No. 0.	Yes. 0. No. 10.
As a result of communications		* The doubtful replies are in fact, No. (which are still proceeding) the above modified as follows:—		Abstract can at the date of writing be	
URBAN	Yes. 11. No. 4.	Yes. 6. No. 8. Doubtful. 1.	Yes. 4. No. 8. Doubtful. 3.	Yes. 11. No. 4.	Yes. 2. No. 13.
RURAL	+ Yes. 10. No. 0.	Yes. 6. No. 4.	Yes. 3. No. 7.	Yes. 6. Modified. 4.	Yes. 0. No. 10.

This shows a considerable improvement, and there is every reason to hope it will be still further improved.

Milk is liable to be exposed to contamination when sent by rail in *unlocked* cans. At one time there appears to have been some doubt or difficulty about using locked cans. This has been set at rest by leaflet 110, recently issued by the Board of Agriculture.

The following extracts from the Reports of the Medical Officers of Health in the County, shew that where the Dairies, Cowsheds and Milkshops Orders are being carried out no insuperable difficulties and no real hardships are experienced, and much improvement is gradually being effected.

Dr. Wills (Mansfield) writes :—" I have looked over many "of the Dairies and Cow-houses with your Dairy Inspector, "and defects which were found have been pointed out, and "orders issued for their remedy."

"In some instances Dairies and Cow-houses are found "beautifully kept and well regulated, and in other instances "they are found badly kept, and defective in many respects."

"The drainage and the storing of manure near Cow-houses "require thorough reformation in many cases."

"Some of those who handle the cows and the milk require "to be much more careful and cleanly in their dress, which "should be capable, as far as possible, of washing and boiling."

"I met recently in another locality a man carrying out "milk whose clothing smelt most offensively."

"Improvements are much needed in the Cow-houses and "Dairies from which milk is supplied to the town. During an "inspection of some of the principal Dairies supplying the "town with milk, four were found with defective drainage ; "two with defective sanitary accommodation ; the cubic space

“for the cows in several of the sheds was insufficient; the ventilation of some Cow-houses required improvement; accumulations of manure in yards near the sheds were objected to, at two places especially.”

Dr. Wills (Newark) writes :—“The ventilation and cleanliness of all sheds has been continuously improved year by year.”

“The lighting has been made better in all the sheds of Newark.”

Dr. Jones (Hucknall Torkard) writes :—“I strongly advised the Council in my Report for 1903, to appoint a Veterinary Surgeon for the purpose of examining cows for Tuberculosis, as it is believed by many competent observers, that milk derived from cows infected with tubercle is capable of causing Phthisis and allied diseases in human beings.”

Dr. Houfton (Mansfield Woodhouse) writes :—“The Dairies, Cowsheds, and Milkshops’ Order of 1885, with its amendments and model bye-laws, has been adopted by your Council, with the consent of the Local Government Board. All Dairies, Cowsheds, and Milkshops in your district are now registered, and under the direct supervision of the Sanitary Inspector and Medical Officer of Health. On making our visits, we have found various unsanitary conditions, which, on our suggestions, for the most part have been speedily remedied.”

Dr. Ingram (Warsop), writing of the Dairies, Cowsheds, and Milkshops’ Order of 1885, says :—“These regulations were made by your Council in the model form, and came into operation on the 1st of January, 1905. Assisted by your Sanitary Inspector, I made a careful inspection of the Dairies, Cowsheds, and Milkshops in the district. Generally, the condition of the premises was good, and the space allotted to each animal sufficient, but in every case the premises required

“cleaning down and lime-washing. The attention of the  
“tenants was drawn to this, and they have done what was  
“necessary.”

“In one case pigs were kept in the same place as cows,  
“and that in addition to the manure from the pigs inside the  
“building; liquid manure from other pigstyes stood in pools  
“outside the Cow-house door. In another case, two cows were  
“occupying the space required for one. In four other places  
“there was insufficient space for the cows kept.”

“The animals, as a rule, were well cared for, and the  
“condition of the yards and premises generally good.”

Dr. Wills (Blyth and Cuckney) writes:—“The Cow-houses  
“have been looked over at Blyth, Langwith, Norton, and other  
“places; and in two of them I pointed out that more light  
“should be introduced, as this is very important for the health  
“of the cows, and for the sake of maintaining proper cleanli-  
“ness, since a dark place will not often be kept clean.”

“One of the greatest defects I notice about the Cow-houses  
“is the old practice of keeping the manure collected in yards  
“close to the Cow-houses, fouling the air which the animals  
“breathe.”

Dr. Housley (East Retford Rural) writes:—“I have  
“inspected the Cowsheds, and some need improvement in the  
“lighting and ventilating, and I reported two as being dirty,  
“and required lime-washing. Several Cow-keepers distribute  
“or sell their milk wholesale in the Borough of East Retford.  
“I find great difficulty in inducing these persons to place  
“themselves on the register. There are no Milkshops in the  
“district.”

Dr. Wills (Southwell) writes:—“I regret that I am unable  
“to give a record of inspections by your Dairy and Cowshed  
“Inspector, since I find the register has not been kept so as to  
“show inspections or improvements in either the Cowsheds or  
“Dairies.”

“It is very important that the register should be kept to show the condition of the sheds with respect to cleanliness, lighting, ventilation, cubic space, water supply, and drainage, year by year; and it would cause very little extra work to look over these places during the inspection of the villages.”

### WATER SUPPLY.

The following extracts give a fair representation, both of the needs of some districts, and of the progress made in others :—

Dr. Ingram (Warsop) writes :—“The most important sanitary work of the year was the completion of the new Water Works, for the supply of the whole district.”

Dr. Wills (Blyth and Cuckney) writes :—“No improvement in the Water Supply of Blyth has yet taken place, although it would be an easy thing to get a better supply from the sandstone to the west of the village at very little expense, even without an engine and reservoir, if the expense were thought too great.”

“Water is supplied by His Grace The Duke of Portland to several of the villages in the south of your district, and it is very much appreciated, but the attempt has not yet been successful to afford one safe source of supply to each of the villages in the north of your district, so that, not only a reliable supply for drinking purposes should be readily available, but a good water for cleaning and washing could be always procured without much labour in carrying it to and fro.”

Dr. Housley (East Retford Rural) writes :—“The Water Supply, except in a few instances, is from shallow wells, which yield water which is ‘hard’ and of a suspicious character. At Tuxford and East Markham the inhabitants fetch the water from a distance, and in former reports I have mentioned



“that these parishes should be provided with a public supply. There are several so-called artesian or deep wells which supply isolated houses, and the water is wholesome. On account of the hardness of the water at North Wheatley, rain water is stored for domestic purposes. At Clayworth, water from the Chesterfield canal is used.”

Dr. Corcoran (Leake) writes :—“The Water Supply of the district is derived exclusively from wells.”

“No fewer than 91 samples were submitted to me for analysis by your Inspector of Nuisances ; in 25 of these cases the water was so impure as to justify me in condemning it as unfit for drinking. In each of these cases, steps were taken to provide a suitable supply of drinking water.”

Dr. Beaman (Misterton) writes :—“The importance of a pure and abundant water supply is of the utmost importance, and I should like to see a better system of collecting rain water in tanks or cisterns ; the present supply, derived as it is, from the river Trent, Chesterfield canal, and shallow wells, is anything but satisfactory ; the two former are polluted, and the latter is excessively hard, due to the presence of gypsum in solution.”

Dr. Broadbent (Newark Rural) writes :—“The Water Supply of my district has very much improved during recent years. The populous villages, with the exception of Collingham, are close to Newark, and these are being supplied with water from the Newark Corporation. Collingham also has now got a supply from the same source, and I am pleased to say that the inhabitants, knowing, on the authority of many Analysts of the highest reputation, that all the present wells are hopelessly polluted with sewage, are connecting their houses to the new supply at a most satisfactory rate.”

Dr. Wills (Southwell) writes :—“Edwinstowe has now been provided with a good water supply by Earl Manvers, and it is highly appreciated.”

“Clipstone appears likely to have an increase of population through the opening of a new colliery near to it, and it is proposed that it shall be supplied with water by the works, which are to be opened for the additional supply of water to Mansfield.”

“Ollerton has not yet been supplied with water, although the parishioners are anxious to get a proper supply from the Nottingham mains, which pass through the main street.”

“A good water supply is much needed at Ollerton and Sutton.”

### **DRAINAGE, SANITARY WORK, AND SCAVENGING.**

I still feel it necessary to commence this subject by again quoting the words spoken by the late Sir Richard Thorne Thorne, when Chief Medical Officer to the Local Government Board.

*“The fact that with our present knowledge, such a structure as the common midden-privy should not only exist in our midst, but be clung to with a perverted tenacity, is, in my opinion, the greatest blot which attaches to English sanitary administration at the close of the nineteenth century. Apart from its sanitary aspect, it is a system as degrading and ignoble as it is foul; and I trust the day is not far distant when we shall look back to it as a barbarism of the past.”*

No one can read the able Reports of the Medical Officers for the 26 Districts of this County without realizing that these remarks are still required.

I would again repeat that the two greatest needs of both Urban and Rural Districts are:—

- 1.—*A thoroughly efficient system of Public Scavenging.*
- 2.—*The paving of yards and spaces around houses.*

These are elementary principles which were insisted upon by the late Sir John Simon when Medical Officer to the Privy Council nearly 50 years ago; but they are still very imperfectly carried out.

The following extracts refer to many of the improvements which have been effected during the past year; and they also point out the most urgent needs of other districts.

Dr. Wills (Mansfield) writes :—"Two great improvements of the year 1904 in Mansfield have been the purification of the sewage from Pleasley Hill by tanks and filter beds constructed for the bacteriological treatment of the filth deposited."

"The fixing of a first-class steam disinfecting apparatus for the disinfecting of bedding and clothing after infectious disease."

"Measures are being taken for the purification of the sewage of the main sewer outfall of Mansfield before it enters the carrier from which it is distributed over the land."

"The Destructor, which was erected near the Gas Works has done away with the numerous complaints which were constantly being made formerly respecting the deposit of filth in various unsuitable localities."

Dr. Housley (East Retford Urban) writes :—"The connection of house drains with the new sewers does not proceed very rapidly, the number of houses connected in 1904 being 215."

Dr. Knight (Carlton) writes :—"A Refuse Destructor would be very useful and, although costly, might be so constructed as to reduce expenditure in other ways."

"One of the necessary reforms is that of the pail system. Filth diseases, such as Diphtheria, Typhoid Fever and Diarrhœa are, under favourable climatic conditions, likely to

“be more or less present with us, as long as such system is in vogue, and, in my opinion, it should be remedied at almost any cost.”

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—“Notwithstanding a yearly increase of population, the total number of typhoids this year is the lowest on record, save one year, 1902, when 16 were notified.”

“During no summer has there been such systematic and intelligent flushing of sewers as this year. The Council very wisely detailed a man to see to the sewers being thoroughly flushed twice weekly. Great attention, too, has been paid to clearing out catch pits and midden privies. As will be mentioned further on, valuable improvements have been effected under the Private Street Improvement Act, and asphaltting of back yards in some places. Enteric cases are vigorously isolated, the excreta removed in specially constructed typhoid pails in a closed van, direct from the bedroom of the patient to the sewage farm. Here they undergo complete cinderization in a furnace built for the purpose last year. This is a great improvement on the old method of burying the typhoid stools in a corner of the sewage farm.”

“Two specially constructed furnaces for the cinderization of infectious excreta have been erected, one at the disused sewage farm in Lindley’s Lane, the other at Park Lane outfall.”

Dr. Houghton (Mansfield Woodhouse) writes :—“Your Council has purchased 45 acres of land, suitable for the outfall site and land treatment of the sewage, and application has been made to the Local Government Board for a loan of £17,500 to carry out the scheme.”

“During the last twelve months the Local Government Board have, after some delay, given their sanction to the scheme, and contracts for the execution of the works are in

“hand. The carrying out of the scheme will be commenced  
“without delay, and it is hoped the works will be in full work-  
“ing order during the ensuing year.”

“Under this head I would call your attention to the  
“number of ashpit middens erected with the level of the ashpit  
“below the level of the surrounding soil, which is contrary to  
“your present bye-laws. These same bye-laws provide for the  
“ashpits being made water-tight. As they are at present  
“constructed, it is impossible to say when this is secured, but  
“there is no doubt, in the great majority of cases, the subsoil  
“in the neighbourhood of these places is constantly receiving  
“leakage from the middens. This is a source of great danger, as  
“conducting largely to the incidence and spread of enteric fever.”

Dr. Nesbitt (Sutton-in-Ashfield) writes :—“The efficient  
“sewerage of the district has been finally begun during the  
“year, and contracts have been let to the extent of £16,838 for  
“Sewerage and Sewage Disposal. The new scheme of Sewer-  
“age, Sewage Disposal and Storm Water Drainage comprises  
“construction of Stoneware Pipe Sewers, Brick and Stoneware  
“Pipe Storm Water Drain, together with necessary Manholes,  
“Flushing Tanks, Ventilators, etc. The Sewage Disposal  
“Works comprise construction of Septic Tanks, Continuous  
“Flow Percolating Beds and Storm Water Beds, and laying  
“out of land.”

Dr. Wills (Blyth and Cuckney) writes :—“The ancient  
“barbarous custom of storing large quantities of filth of all  
“kinds in deep pits on the premises is being abolished, and  
“replaced by the earth system, where dry earth or ashes is  
“thrown over the excreta collected in smaller receptacles above  
“ground, and removed at more frequent intervals.”

Dr. Housley (East Retford Rural) writes :—“There is no  
“system of sewerage, and the sewage is conducted to the  
“nearest ditch or watercourse. The condition of the house  
“drains has improved in recent years.”



Dr. Wills (Southwell) writes :—“ Edwinstowe, Epperstone, “and Rolleston are the only villages in the Southwell District “which have been provided with modern sewers.”

Dr. Wray (Basford) writes :—“ The Sewerage Works at “Colwick and Gedling are completed; Selston is in an “advanced state, five of the sections being well in hand; and a “start has been made with the Burton Joyce Scheme. Plans “for completing the sewerage of Brinsley have been approved “by the Parish Council, and instructions given for the work to “proceed.”

### PAVING ROUND HOUSES.

Dr. Houfton (Mansfield Woodhouse) writes :—“ I should “further suggest that you insist upon the paving of back yards “in the new houses which are to be erected.”

Dr. Nesbitt (Sutton-in-Ashfield) writes :—“ And here, once “again, may I be allowed to point out that practically nothing “is being done with regard to better sanitation of yards and “courts, by paving or asphaltting, and so minimising the “production of disease-laden dust. In each Annual Report, “and at various other times for the last six years, I have “pointedly asked your attention to this dangerous nuisance. “Lately I have come across my Annual Report for the year “1886, and there I find the following :—‘ I have in previous “Reports referred to the unpaved condition of yards and spaces “round many of the houses. This is a most serious sanitary “defect, and is decidedly detrimental to the health of the “community, and if the district is to be protected from epidemic “attacks, these will require to be remedied, by having all “courts, alleys, and yards paved with hard, impervious “material, in such a manner as to be readily cleansed, and “with an uniform slope to the drain inlets, so as to run dry. “The different Inspectors who have reported on the sanitary “condition of the district, have repeatedly referred to the “danger accruing to the public health from this source, and I

“would strongly recommend your authority, as guardians of the health of the district, to undertake this necessary ‘improvement.’ That, gentlemen, is copied from my Report of eighteen years ago, and, when I state that fact, further ‘comment is needless.’”

### DUST PROBLEMS.

\* “The discomforts induced by dust need no demonstration, nor has its detrimental effect on all things domestic failed of due recognition.”

“The general hostility, however, might be materially sharpened were it more thoroughly recognised what dust really is. Much of it, no doubt, is the harmless detritus of inorganic matter, but still more of it, especially in towns and anywhere within reach of dwellings, is powdered dirt, of the very nastiest description. And not merely nasty: it is dirt of a kind often dangerous to health, if we inhale it, or if it gets into our food. Dust, in short, is a fruitful disseminator of disease germs, and should be treated, both by domestic and public sanitarians, with the determined and considered hostility due to a subtle foe.”

### SMOKE PREVENTION.

The prevention of the pollution of the air by smoke is one of the duties imposed upon Sanitary Authorities, by Sections 91 (sub-sections 7 and 8), 92, and 102, of the Public Health Act, 1875.

The value of pure air is gradually being more and more appreciated, now that the difficulty of obtaining it is daily increasing. The question of “aerial sewage,” as it has been termed, is attracting much attention. The importance of the evil has been recognised by the Physical Deterioration Committee, in clause 7 of their recommendations. In the coal mining parts of the country, smoke pollution concerns the

\* British Medical Journal, December 31st, 1904.

Rural districts, as well as the Urban. Smoke prevention is already successfully accomplished in some cases, and there is no sufficient reason why smoke-consuming furnaces and careful stoking should not be required in all.

\* “Sir William Ramsay, F.R.S., in his address in 1896, “referred to one point in connection with smoke production, “which cannot be known too widely. He said, ‘Smoke “condenses atmospheric vapour, causing fog and rain, *renders* “*our climate colder*, and makes our lives more or less unhappy “and uncomfortable. It *shuts out sunlight*, and thus increases “the growth, and tends towards the multiplication of bacteria, “many of which are of a dangerous character.’ ”

“We are all well aware, from the abnormal rise of the “death-rate of towns, during a continuance of fogs, how they “act as aggravators of disease conditions—how bronchial and “phthisical subjects especially suffer; but now we know, “that the intensification of fogs, by the admixture of smoke “emissions, directly incites disease, by absorbing from the rays “of the sun, the blue, violet, and ultra-violet light, which has “been discovered to be fatal to all bacterial life.”

“We can obtain reliable information all over the “country as to the rainfall, and the temperature is duly “recorded day by day in every important centre of population. “On the smut-fall statistics are silent. Why should this be?”

“It cannot be because of the comparative unimportance “of a clean atmosphere as against a clean river or stream.

“Here we find that during 100 days in spring, the deposit “of dust and smuts from the air of Glasgow, averages 109

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\* Address by Sir John Ure Primrose, Bart., The Hon. the Lord Provost of Glasgow, to the Conference of Municipal Representatives at the Congress of the Royal Sanitary Institute at Glasgow.

“grains upon each square foot; and we arrive at the conclusion  
 “that *the smut-rate of Glasgow is 22·119 cwt. on each acre*  
 “*per annum.*”

“I have become quite convinced that mechanical science,  
 “in its application to the proper combustion of fuel, whether  
 “the fuel be coal or the gas obtained from it, is now quite  
 “capable of relieving us from this nuisance. Further, that  
 “*this much-needed relief may be obtained in a manner quite*  
 “*consistent with economy,* so far as steam production is  
 “concerned. In my own works, I have been able to prove  
 “this, as, whereas in former years, I admit having contributed  
 “my share to the air pollution of the city, I now rejoice in a  
 “clear chimney-top from morning till night.”

\* In the opinion of the Prussian Government the employment of proper firemen will go far to minimize excessive emission of smoke. In 1902, therefore, they introduced a course of instruction for firemen, and £2,000 is for the present allowed in the Budget annually for this purpose. The motives which induced the Government to ask for the grant are stated in the 1902 Budget as follows :—

“The preliminary condition for the prevention of excessive  
 “emissions of smoke is, as experience has shown, the  
 “instruction of capable firemen. This would also have the  
 “advantage of leading to better insurance against boiler  
 “explosions and to economy. In view of the general State  
 “interests which are here in question, and of the proven  
 “failure and insufficiency of efforts on the part of persons  
 “interested, it is desirable that the State should take the  
 “proper steps for such instruction to be given. By way of  
 “experiment, and for at least two consecutive years, itinerant

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\* Reports on the Laws in force in certain Foreign countries in regard to the emission of smoke from chimneys. Presented to both Houses of Parliament, by Command of His Majesty, February, 1905. Page 12.

“courses of instruction will be instituted for firemen and  
 “engineers. The instruction will be given once a fortnight by  
 “academically educated instructors paid by the State, according  
 “to a uniform system, but taking into consideration the  
 “different local requirements of the industry prevailing in the  
 “several districts of the country; the classes will be held, first  
 “in connection with the existing engineering and technical  
 “schools, and making use of their appliances, and then in  
 “other places where suitable rooms can be found.”

### ANKYLOSTOMIASIS.

No case of this disease in this county has been brought to the notice of the Health Department, although a case has been reported in Lancashire.

In consequence of a communication from the Home Office, a circular-letter was addressed to all Managers of Collieries whose addresses could be ascertained, calling attention to the recommendations contained in the Report of Dr. Haldane, F.R.S. to the Home Office, especially as to the soiling of underground roads by excrement, and advising the provision of proper tub closets. It is not known whether any precautions have been taken, as no replies or acknowledgments have been received.

\*“In an interim report on ‘the probability of ankylostoma becoming a permanent inhabitant of our coal mines, in the event of its introduction,’ the Committee appointed by the British Association for the Advancement of Science to inquire into this subject, indicates the dangers that would ensue if this were to take place. The importance of the subject is evident enough from the financial point of view, if one takes into account the trouble this pest has caused in the Westphalian coal fields, and the vast sums of money spent in trying to eradicate it.”

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\* *British Medical Journal*, December 31st, 1904.



“On this aspect of the subject some interesting information is given in a paper published in a recent issue of the *Transactions of the Institution of Mining Engineers*, by Dr. Thomas Oliver on ‘Miners’ Worm Disease,’ as seen in Westphalian and Hungarian collieries. The centre of the Westphalian coal-mining industry is Bochum, a town with a population of 70,000. This town possesses an infirmary containing 400 beds, in which during last year 3,000 patients were treated for ankylostomiasis. In the valley of the Ruhr, again, the number of cases has increased from 107 in 1896 to 1,030 in 1901, and 1,355 in 1902. Within the last two years, ankylostomiasis has cost the Miners’ Union and owners in Westphalia £100,000. In Hungary, Dr. Oliver visited the Sopron-Brennberg colliery, where he was received by Dr. Goldman, Medical Officer to the mine. Seven years ago, when Dr. Goldman received his appointment, upwards of 90 per cent. of the miners were affected by the worm, but at the time when Dr. Oliver paid his visit the percentage of sufferers was about 30.”

“There is undoubtedly a danger of the general introduction of the parasite into this country; the Cornish tin mines have already shown this, and the warning certainly ought to be attended to by hygienists and owners of mines alike. The question of the different temperatures commonly found in English mines is worthy of more detailed study, but it is generally believed that 70° F., a temperature sufficient for the egg to hatch and the larva to reach the encapsuled stage, is generally found in them. Prevention is better than cure; and if the preventive measures advocated by the Committee of the British Association for non-infected mines are acted upon, it should be comparatively easy to avoid any risk of contamination. They may be summed up as an enforcement of regulations against indiscriminate soiling of underground roads by excrement, and the medical examination of all foreign workmen or persons who have lived in the tropics to ascertain that they are free from the parasite.”

## FACTORIES, WORKSHOPS AND BAKEHOUSES.

The amount and kind of work that is being done by the Health Authorities under the recent Act is shewn on the following Tables ; and also by the extracts from the Annual Reports of the Medical Officers of Health.

Dr. Wills (Mansfield) writes :—"Of three underground  
 " bakehouses, one in Talbot Street was closed. One in Brunts  
 " Street and Nottingham Road, which could not be made fit for  
 " use as a bakehouse in accordance with modern requirements  
 " was closed as soon as it was possible to obtain new premises  
 " for a bakehouse in the locality."

"One in Leeming Street, which was constructed in recent  
 " years, and was roomy, well lighted, and of a better character,  
 " was altered by removing drains which communicated with  
 " the inside of the bakehouse through trapped gullies, and by  
 " making a good floor with tiles to replace a concrete floor  
 " which was worn and uneven, and could not be properly  
 " cleansed."

"An electric fan was provided to drive fresh air into this  
 " bakehouse in place of the air brought in by windows from the  
 " roadway. A certificate was granted for the continuation of  
 " the bakehouse, but the owner informed me that he intended,  
 " as soon as he could, to replace it by a bakehouse on the  
 " ground level, and use the underground bakehouse for other  
 " purposes, and this is desirable, for the difficulty of changing  
 " the air and swilling down the floor of an underground bake-  
 " house, even where the management is good, render such  
 " places objectionable."

"A bakehouse in Ratcliffe Gate, which I pointed out to the  
 " occupier as unfit for the purpose, was discontinued, since,  
 " through its dilapidated condition and defective construction,  
 " it could not be satisfactorily altered."

# FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK. Year 1904.

URBAN DISTRICTS.	Number of Workshops on the Register.	Number of Inspections, including Inspections made by Sanitary Inspectors.				DEFECTS FOUND.								Underground Bakehouses.			Outworkers.		Homework.		
		Factories (including Factory Laundries).	Workshops (including Workshop Laundries).	Workplaces.	Homeworkers' Premises.	Nuisances under the Public Health Acts.				Offences under the Factory and Workshop Act.				In use during 1903.	Certificates granted.	In use at the end of 1904.	Number of Lists received.	Number of Outworkers.	Notices prohibiting Homework in Unwholesome Premises.	Cases of Infectious Disease notified in Homeworkers' Premises.	Orders prohibiting Homework in Infected Premises.
						Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.	Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.								
MANSFIELD .. ..	71	..	71	..	..	4	4	..	..	..	..	..	..	3	1	1	3	22	..	..	..
NEWARK .. ..	..	..	76	..	75	16	14	..	..	..	..	..	..	4	3	3	2	..	..	..	..
EAST RETFORD .. ..	54	19	80	6	6	3	2	..	..	4	..	..	..	..	..	..	4	6	..	..	..
ARNOLD .. ..	31	26	52	..	35	10	10	..	..	13	13	..	..	1	1	1	2	42	..	12	..
BEESTON .. ..	26	14	26	..	79	6	6	..	..	..	..	..	..	..	..	..	2	40	..	..	..
CARLTON .. ..	45	4	45	..	80	2	2	..	..	..	..	..	..	..	..	..	..	20	..	1	1
EASTWOOD .. ..	..	..	1	12	..	1	1	..	..	..	..	..	..	5	1	5	..	..	..	..	..
HUCKNALL HUTHWAITE ..	..	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
HUCKNALL TORKARD ..	36	..	*	..	..	19	19	..	..	4	4	..	..	1	1	1	8	50	..	..	..
KIRKBY-IN-ASHFIELD ..	6	10	12	15	5	4	4	..	..	5	5	..	..	..	..	..	..	..	..	5	5
MANSFIELD WOODHOUSE	5	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SUTTON-IN-ASHFIELD ..	48	20	85	..	..	13	13	..	..	..	..	..	..	1	..	0	6	79	1	5	5
WARSOP .. ..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WEST BRIDGFORD .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WORKSOP .. ..	44	92	201	20	12	1	1	..	..	1	1	..	..	..	..	..	6	3	..	..	..

\* All Workshops are inspected every 3 months.





FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK. Year 1904.

Year 1904.

[illegible]





“Sanitary defects at the bakehouses in Broxtowe Drive and Pleasley Hill have been remedied.”

“I have pointed out that further improvement is required in a bakehouse at Pleasley Hill.”

Dr. Houfton (Mansfield Woodhouse) writes :—“I have carefully inspected the two bakehouses in your district, and they may be considered satisfactory in respect to cleanliness.”

Dr. Nesbitt (Sutton-in-Ashfield) writes :—“During the year, on the initiative of your Sanitary Officials, a very desirable improvement was made in one of the bakehouses referred to in last year’s Report as not having sufficient ventilation. The floor of the room over the bakehouse was removed, making a good, lofty, and well-ventilated workshop.”

Dr. Ingram (Warsop) writes :—“In two of the bakehouses I visited I found it necessary to order limewashing, and this was done within a few days.”

“I requested three blacksmiths to lime-wash that part of their shops where horses are shod, and in each case this was done.”

Dr. Housley (East Retford Rural) writes :—“I reported that a bakehouse was badly lighted, and it is under consideration by the owner of the property whether this should be altered or a new one built.”

“One workshop required limewashing, and this was done without sending a formal notice.”

### **HOUSES UNFIT FOR HABITATION.**

Dr. Harvey Francis (Arnold) writes :—“There are nine houses, which, with one exception, are unfit for habitation ; at the time of my visit five only were occupied. They are all, more or less, dilapidated—some with the roofs falling in,

“some without any windows, and some without proper flooring; one tenant had half-a-dozen dogs in his sitting room, which, in consequence, was in a deplorable dirty condition, and had turned one of the bedrooms into a pigeon house.”

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—“Towards the end of the year (1903) 89 houses were reported as unfit for human habitation, chiefly from lack of suitable sanitary conveniences. By the close of the year 67 had the necessary improvements effected, leaving 22 in *statu quo*. In the case of 17, legal proceedings had to be taken against the owners. The magistrates ordered the specified improvements to be carried out within six weeks, otherwise a closing order would be issued. The required improvements were effected within the expiration of the time stated. The remaining five, in Bradley’s Yard, Kirkby, were pulled down this summer, and practically built into new houses.”

“This year 17 houses were reported as unfit for human habitation, and eight from over-crowding. At the time of writing, the specified improvements are being effected in the houses condemned as unfit for habitation. In the case of the over-crowded houses the nuisance was abated in three of them immediately on notice being served. In one proceedings had to be taken; the magistrates ordered the house to be closed within one month. This same house has since been pulled down and rebuilt. The remaining four, at Portland Row, remain in *statu quo*.”

Dr. Housley (East Retford Rural) writes :—“In February, I investigated a case of over-crowding at Treswell. The front bedroom, containing 983 cubic feet, was occupied by two adults, and five children under twelve years; the back bedroom, 333 cubic feet, was occupied by two young men, and the window did not open. As no attention was given to the notices served by the Inspector of Nuisances, the case

“came before the magistrates on October 15th, when a fine  
 “was imposed and an order made to abate the over-crowding  
 “in one month.”

“Another case, at Lound, was reported in April. One  
 “bedroom, containing 1096 cubic feet, was occupied by two  
 “adults, one young person, and five children under twelve.”

### RURAL BYE-LAWS.

There has been so much controversy in the country about Bye-laws, and so much misapprehension, if not actual misstatement of fact, that it seems desirable to clear it up as far as possible. The following extract is of interest:—

#### \* DO BUILDING BYE-LAWS IN RURAL DISTRICTS INHIBIT BUILDING OPERATIONS?

“In a leading article in *The Lancet*, of February 11th, we referred to the circumstance that there were no building bye-laws in force in something like 40 per cent. of the rural districts in England and Wales, and we used this fact as tending to controvert the contention of those who urge that the enforcement of such bye-laws is largely responsible for the rural depopulation, which all those interested in the physical well-being of the people deplore. As we stated, it had never to our knowledge been shown that in rural districts without building bye-laws the population was increasing, whereas, in districts with bye-laws, it was decreasing. The problem of depopulation was, we urged, a highly complex one, and the influence of bye-laws upon it was not great. It is interesting, therefore, to turn to the last annual report of Dr. R. W. C. Pierce, the medical officer of health of the Guildford rural district, which shows in tabular form the number of new houses built, during the last four years, in the four parishes with bye-laws, as compared with the number built in the fourteen parishes without such bye-laws. The combined area of the first group of parishes is 15,609 acres, and the population is 8419, whereas the corresponding figures for the latter (non-bye-law) group are 39,716 acres, and 12,507 people. During 1901-04, there were 159 houses built in the *four* parishes with bye-laws, as against 172 in the *fourteen* parishes without bye-laws. These figures are instructive, as also are some observations made by Dr. Pierce with respect to the erection of wooden cottages. *It is a common contention that if the erection of wooden houses were permitted such structures would spring up like fungi all over the country. The experience of the Guildford rural district is as follows: ‘In all but four of the [18] parishes of the district . . . builders are at liberty to put up cottages of wood or other material than bricks as they please, but no one has yet done so.’*”

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\* *Lancet*, March 18th, 1905, p. 729.

Mr. Walter Long, when President of the Local Government Board, received a deputation from the Workmen's National Housing Council, and some of the rural district councils, in regard to the question of rural building bye-laws; he said:—

“The general principles that had always been advocated and maintained by his department were that houses should be well built, sanitary, and suitable for human habitation.”

“At the present moment, under the very moderate system of bye-laws obtaining, there were some 700 local authorities, 266 of which had no bye-laws at all.”

“In any change he, or anybody who succeeded him, made, they would never lose sight of the three considerations he had laid down, but at the same time he thought it was very unfortunate that in so large a number of cases in the country there should be no bye-laws in existence at all; or that in some cases the bye-laws should admit of habitations which, as had been pointed out, were manifestly unsuitable for human beings to live in. His object in any alterations he might make would be so to adapt the bye-laws to the requirements of the district, that they should be adopted by a very much larger number of local authorities than had hitherto adopted them. There was evidence already that the new rural code was more suitable to rural districts than the old one, because they had received applications from the local authorities to withdraw the existing code and substitute the new one for it. The real difficulty in framing bye-laws, was making them applicable to what he might call *mixed districts*. There were many of them in this country. There were large areas the population of which was gradually becoming urban, or had become urban, the rest of it remaining purely rural. Bye-laws applicable to districts where there were rows of houses, or where there



“was an aggregation of population, might become unsuitable, harsh, and restrictive in districts where the houses were single, and the same conditions with regard to population did not obtain.”

“He had already said that he had revised the *rural code* which had been issued, and he was carefully considering it with a view to considering whether there was anything in it which ought to be removed in order to prevent undue severity, and they were to see whether there was anything that could be added with advantage. He was considering *an intermediate code* applicable to districts which were neither urban or rural in their character, and which it was difficult to divide, but to which a varied code might be more applicable than the existing code.”

In this county the following information has been obtained as regards Bye-Laws in Rural Districts :—

Basford. “Yes. They have been in force since 1896, and are practically the L.G.B. Model Bye-Laws. They have not been too stringent in this district, as an average of 300 new houses a year proves.”

Bingham. “No. The only parish where Bye-Laws are in force is Radcliffe-on-Trent, where they were adopted in 1885.”

Blyth and Cuckney. None.

East Retford, Rural. None.

Leake. None.

Misterton. No reply.

Newark, Rural. None.

Skegby. “Yes. Bye-Laws have been adopted in the whole of this district.”

Southwell. "Yes. In most respects they copy the Model  
"Bye-Laws, and were adopted in 1900."

Stapleford. "Yes. Model Bye-Laws were adopted in 1899."

Notts. Parishes administered by Shardlow. "Yes. They were  
"adopted in 1899, and follow the Model Bye-  
"Laws closely."

The above shews that the most thriving districts have adopted Bye-Laws, and that their prosperity has continued.

Dr. Houfton (Mansfield Woodhouse) writes :—"Those in  
"force in your district are for the most part 'Model' Bye-Laws,  
"and during the last year have been revised."

The Inspector of Nuisances (East Retford Rural) writes :—  
"As no Building Bye-Laws are in force in this district, there  
"are no restrictions upon the erection of new houses, beyond  
"the provision of a wholesome water supply and sanitary  
"accommodation."

Dr. Wray (Basford) writes :—"I may add that the Com-  
"mittee continue to act up to their decision to pass no plan  
"which does not conform to the new Bye-Laws, and already  
"the benefit of this action is apparent in the better class of  
"cottage property which is springing up in the district."

Table I. NOTTINGHAMSHIRE. Vital Statistics for the Year 1904.  
BOROUGH AND URBAN DISTRICTS.

BOROUGH AND URBAN DISTRICTS.		Area in Acres Exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, Census 1901.	Population, Estimated to the middle of 1904.	Births.		Deaths under 1 year of age.		Total Deaths Registered at all Ages.		Net Deaths at all Ages belonging to the Districts.	** Corrected Death Rate.	† Average Death Rate of the ten years 1894-1903.	Death Rate from Tuberculous Diseases, 1904.	Death Rate from principal Zymotic Diseases, 1904.
								Number.	* Rate.	Number.	Rate per 1000 Births Registered.	Number.	* Rate.					
MANSFIELD (Borough)	.. ..	7,208	3.6	4,369	4.94	21,445	26,300	935	35.5	105	112	367	13.9	336	12.8	17.9	1.36	1.63
NEWARK (Borough)	.. ..	1,899	8.1	3,416	4.3	14,992	15,400	493	32.0	82	166	313	20.2	294	19.1	16.5	2.20	1.23
EAST RETFORD (Borough)	.. ..	4,498	2.8	2,707	4.5	12,340	12,919	279	21.5	48	172	175	13.5	164	12.6	15.5	1.16	1.16
ARNOLD ..	.. ..	4,612	2.1	1,799	4.8	8,757	9,900	295	29.7	59	200	143	14.4	143	14.4	14.9	1.11	3.03
BEESTON	.. ..	1,586	6.7	1,978	4.5	8,960	10,692	300	28.0	47	156	155	14.4	155	14.4	12.9	1.96	2.99
CARLTON	.. ..	1,400	9.4	2,159	4.6	10,041	13,231	405	30.6	56	138	143	10.8	153	11.5	13.4	0.75	1.43
EASTWOOD	.. ..	940	5.5	948	5.0	4,815	5,200	138	26.0	24	173	69	13.0	69	13.0	15.9	1.34	2.11
HUCKNALL HUTHWAITE		1,199	3.7	789	5.0	4,076	4,500	196	43.5	26	137	58	12.8	58	12.8	18.9	1.55	1.77
HUCKNALL TORKARD ..		3,270	5.0	3,126	4.8	15,250	16,500	576	34.9	108	197	267	16.2	267	16.2	17.0	2.24	3.15
KIRKBY-IN-ASHFIELD ..		5,814	2.3	2,055	5.0	10,318	13,755	521	37.8	86	165	175	12.6	177	12.8	15.9	0.94	1.6
MANSFIELD WOODHOUSE		4,834	1.1	961	5.0	4,877	5,700	276	48.0	40	145	93	16.0	93	16.0	16.3	1.22	3.15
SUTTON-IN-ASHFIELD ..		4,786	3.5	2,993	4.9	14,862	17,104	674	39.4	83	123	227	13.2	227	13.2	17.7	2.22	1.17
WARSOP .. ..	.. ..	5,728	0.5	429	4.9	2,132	3,000	137	45.6	22	160	36	12.0	36	12.0	18.0	0.00	2.66
WEST BRIDGFORD ..	.. ..	1,123	8.5	1,544	4.5	7,018	9,495	163	17.2	11	67	68	7.2	68	7.2	9.1	0.42	0.42
WORKSOP	.. ..	17,930	0.9	3,258	4.9	16,112	17,392	583	33.5	104	178	291	16.7	283	16.2	17.3	0.63	3.39
Totals for Urban Districts		66,827	2.7	32,531	4.7	155,995	181,088	5971	32.9	901	150	2580	14.2	2523	13.9	16.1	1.38	1.99

\* Rates calculated per 1000 of the estimated population..

\*\* The Corrected Death Rate is arrived at by taking the whole of the Deaths registered during the year in the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.

† The Eastwood Rate is calculated for 7 years, and Kirkby-in-Ashfield for 8 years, as previously they were not Urban Districts.





Table II. NOTTINGHAMSHIRE. Vital Statistics for the Year 1904.  
RURAL DISTRICTS.

RURAL DISTRICTS.	Area in Acres, exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Population, Census, 1901.	Population estimated to the middle of 1904.	Births.		Deaths under one year of age.		Total Deaths registered at all ages.		Net Deaths at all ages belonging to the Districts.	Corrected Death Rate.		Average Death Rate of the ten years 1894—1903.	Death Rate from Tuberculous Diseases, 1904.	Death Rate from principal Zymotic Diseases, 1904.
							Number.	Rate. *	Number.	Rate per 1000 Births registered.	Number.	Rate. *		* *				
BASFORD .. ..	61,868	·64	8,115	4·7	38,365	39,676	1,288	30·1	157	121	574	14·4	599	15·0	14·6	1·58	1·81	
BINGHAM .. ..	66,574	·21	3,250	4·1	13,612	14,132	338	23·2	33	97	245	17·3	179	12·6	15·7	1·70	0·99	
BLYTH AND CUCKNEY	28,208	·16	1,005	4·5	4,562	4,730	105	22·1	13	123	60	12·6	61	12·8	14·3	1·05	0·85	
EAST RETFORD .. ..	92,740	·15	3,321	4·6	14,239	14,236	352	24·7	35	99	210	14·7	222	15·5	14·3	1·26	0·35	
LEAKE .. ..	17,073	·21	861	4·3	3,709	3,709	97	27·4	7	72	59	15·9	60	16·1	14·0	0·80	2·42	
MISTERTON .. ..	14,268	·25	805	4·4	3,618	3,616	94	25·9	15	159	56	15·4	58	16·3	13·8	0·83	2·21	
NEWARK .. ..	36,619	·21	1,795	4·3	7,738	7,919	217	27·4	25	115	93	11·7	93	11·7	13·6	0·88	0·88	
SKEGBY .. ..	12,405	·47	1,071	5·1	5,478	6,008	188	31·3	29	154	66	10·9	66	10·9	15·7	2·00	0·66	
SOUTHWELL .. ..	117,638	·16	4,573	4·1	19,114	19,054	466	24·4	55	118	314	16·5	314	16·5	16·3	1·25	1·15	
STAPLEFORD .. ..	4,860	1·79	1,708	4·6	7,873	8,700	261	30·0	36	138	115	13·2	115	13·2	14·4	1·49	1·26	
Notts. Parishes administered by SHARDLOW .. ..	2,360	·17	79	5·2	413	415	2	4·8	0	0	3	7·2	3	7·2	14·7	0·00	0·00	
Total for Rural Districts ..	454,613	·26	26,583	4·4	118,721	122,195	3,408	27·8	405	118	1,795	14·6	1770	14·4	14·9	1·40	1·27	

\* Rates calculated per 1000 of the Estimated Population.

\*\* The Corrected Death Rate is arrived at by taking the whole of the Deaths registered during the year within the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.





Table III. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the Year 1904. BOROUGHES AND URBAN DISTRICTS.

BOROUGHES AND URBAN DISTRICTS.	Small Pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Chicken Pox.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Cases removed to Isolation Hospital for treatment.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
MANSFIELD (Borough)	2	63	..	43	45	16	..	2	..	171	Yes	44	Charles Wills, M.R.C.S.	Yes
NEWARK (Borough)	12	11	..	11	7	4	..	1	..	46	Yes	15	Charles Wills, M.R.C.S.	Yes
EAST RETFORD (Borough)	..	9	..	2	31	6	..	..	..	48	Yes	23	John Housley, M.D.	Yes
ARNOLD	..	23	..	..	26	5	..	1	..	55	Yes for Small-pox	0	Harvey Francis, M.D.	Yes
BEESTON	2	60	..	7	31	3	..	..	..	103	Yes for Small-pox	4*	Frank Rothera, M.D.	Yes
CARLTON	28	24	3	41	42	3	2	1	..	144	Yes for Small-pox	26	J. T. Knight, M.R.C.S.	Yes
EASTWOOD	1	5	..	9	11	9	..	..	..	35	No	0	D. M. Forbes, F.R.C.S.	Yes
HUCKNALL HUTHWAITE	..	4	3	3	22	5	..	..	..	37	Yes for Small-pox	0	Robert Irvine, L.R.C.P.	Yes
HUCKNALL TORKARD	6	27	2	17	132	14	..	1	11	210	Yes for Small-pox	6	H. T. Jones, M.R.C.S.	Yes
KIRKBY-IN-ASHFIELD	3	6	1	12	79	18	..	3	38	160	Yes	3	John Mackenzie, L.R.C.P.	Yes
MANSFIELD WOODHOUSE	4	2	..	5	9	2	..	..	..	22	No †	4	Ernest H. Houfton, M.D.	Yes
SUTTON-IN-ASHFIELD	9	7	..	14	13	22	..	1	..	66	Yes for Small-pox	9	R. Nesbitt, L.R.C.S.I.	Yes
WARSOP	..	4	..	3	5	4	..	..	..	16	No	0	Joseph Ingram, L.R.C.P. and S.	Yes
WEST BRIDGFORD	4	17	..	..	40	2	..	1	..	64	No	0	Walter Hunter, M.D.	Yes
WORKSOP	13	2	..	5	16	16	..	..	..	52	Yes	30	T. C. Garrett, M.B.	Yes
TOTAL .. ..	84	264	9	172	509	129	2	11	49	1229		164		

† There is an arrangement with the Mansfield Corporation to admit cases of Small Pox and Scarlet Fever into their Isolation Hospitals.

\* Two cases of Enteric Fever removed to General Hospital, Nottingham.



Table IV. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the Year 1904.  
RURAL DISTRICTS.

RURAL DISTRICTS.	Small Pox.	Diphtheria.	Membranous Croup.	Frysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Chicken Pox.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Cases removed to Isolation Hospital for treatment.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
BASFORD	10	42	..	33	251	32	..	2	..	370	Yes	78	G. B. Wray, M.R.C.S., D.P.H.	Yes
BINGHAM	2	11	..	2	65	3	..	..	..	83	No	..	J. W. Eaton, M.R.C.S.	No
BLYTH AND CUCKNEY	..	6	..	2	15	1	..	..	..	24	Yes	14	Charles Wills, M.R.C.S.	Yes
EAST RETFORD	..	2	..	6	56	2	..	1	..	67	No	0	John Housley, M.D.	Yes
LEAKE	1	71	..	1	4	8	..	1	..	86	No	1	Thos. Corcoran, L.R.C.S.I.	Yes
MISTERTON	4	4	..	..	1	4	..	..	..	13	Yes for Small-pox	1	† E. H. Beaman, L.R.C.S.I.	Yes
NEWARK	..	..	..	4	8	..	..	..	..	12	No	0	Frank Broadbent, M.R.C.S.	Yes
SKEGBY	..	1	..	..	13	1	..	1	..	16	No	0	J. O. Littlewood, M.R.C.S., D.P.H.	Yes
SOUTHWELL	..	16	..	6	34	1	..	..	..	57	Yes for Small-pox	*1	Charles Wills, M.R.C.S.	Yes
STAPLEFORD	..	19	2	9	28	6	..	1	..	65	Yes for Small-pox	0	E. Kingsbury, M.D.	Yes
NOTTS. PARISHES administered by SHARDLOW	..	..	..	..	..	..	..	..	..	..	No	..	J. A. Hogg, M.R.C.S.	Yes
TOTALS .. .. .	17	172	2	63	475	58	..	6	..	793		95		

\* One case of Scarlet Fever removed to Mansfield Hospital.

† Dr. Beaman resigned, owing to ill health, in the spring of 1905; and Dr. J. Potterton Ferguson has been appointed from April 1st, 1905.





Table V. NOTTINGHAMSHIRE. Vital Statistics for the Year 1904.  
WHOLE ADMINISTRATIVE COUNTY.

	Area in Acres.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, Census, 1901.	Population Estimated to the middle of 1904.	Births.		Deaths under 1 year.		Total Deaths registered at all Ages.		Corrected Death Rate for the ten years 1894-1903.	Death Rate from Unberleous Diseases, 1904.	Death Rate from principal Epidemic Diseases, 1904.
							Number.	Rate.	Number.	Rate per 1,000 Births.	Number.	Rate.			
URBAN DISTRICTS	66,827	2.7	32,531	4.7	155,995	181,088	5,971	32.9	901	150	2,580	14.2	13.9	1.38	1.99
RURAL DISTRICTS	454,613	.26	26,583	4.4	118,721	122,195	3,408	27.8	405	118	1,795	14.6	14.4	1.40	1.27
WHOLE ADMINISTRATIVE COUNTY.	521,440	.58	59,114	4.6	274,716	303,283	9,379	30.9	1,306	139	4,375	14.4	14.1	1.39	1.70

\* Rate calculated per 1,000 of the estimated Population.



Table VI. Causes of Death during the Year 1904. URBAN DISTRICTS.

DISTRICTS.			Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fever (Typhus, Enteric, and Continued).	Epidemic Influenza.	Diarrhea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	All other Causes.	All Causes.
MANSFIELD	..	..	..	1	8	7	..	3	3	24	4	2	1	1	21	15	16	34	11	2	3	..	..	14	3	22	7	2	31	..	11	90	336	
NEWARK	..	..	..	1	..	7	1	..	1	4	9	7	1	..	1	23	11	19	24	18	..	1	12	..	13	4	28	5	1	21	..	..	82	294
EAST RETFORD	..	..	..	..	2	..	..	..	..	13	3	..	..	..	10	5	9	15	8	..	..	3	..	6	..	9	6	..	..	..	..	75	164	
ARNOLD	..	..	..	..	2	8	1	1	1	19	3	1	..	..	9	2	3	16	4	..	4	..	..	5	..	12	1	..	..	..	..	51	143	
BEESTON	..	..	..	..	1	3	12	1	..	..	16	..	..	..	17	4	5	13	10	..	..	3	..	11	..	8	1	2	..	..	..	48	155	
CARLTON	..	..	1	1	1	2	4	2	1	1	9	2	..	..	..	5	5	9	8	14	..	1	..	..	13	2	11	5	..	8	..	..	48	153
EASTWOOD	..	..	..	..	3	..	..	..	2	2	6	4	1	..	..	4	3	1	3	12	..	1	..	..	2	..	11	1	..	..	..	..	13	69
HUCKNALL HUTH- WAITE	..	..	..	3	..	..	..	1	..	..	5	4	..	..	..	5	2	1	2	4	..	1	2	..	9	1	3	4	1	..	1	..	9	58
HUCKNALL TOR- KARD	..	..	..	..	6	24	4	..	..	..	18	..	..	3	..	16	21	10	10	32	..	..	1	..	14	..	18	1	..	..	25	14	50	267
KIRKBY-IN- ASHFIELD	..	..	1	..	3	2	1	3	1	13	4	2	..	..	6	7	6	9	20	..	..	1	..	11	1	7	9	2	..	..	..	68	177	
MANSFIELD WOODHOUSE	..	..	5	..	2	..	..	1	..	10	..	..	..	..	5	2	3	12	6	..	3	..	..	8	..	1	1	..	..	..	..	34	93	
SUTTON-IN- ASHFIELD	..	..	7	..	2	1	..	3	2	7	10	..	..	..	11	27	10	21	15	..	1	5	1	17	1	19	2	4	..	..	..	61	227	
WARSOP	..	..	..	1	..	..	1	..	..	6	..	..	..	2	..	..	1	2	4	..	..	..	..	1	..	1	..	1	..	..	..	16	36	
WEST BRIDGFORD	..	..	..	1	2	..	1	2	..	5	1	1	..	1	3	1	2	4	2	..	1	2	..	4	1	10	..	1	..	..	..	24	68	
WORKSOP	..	..	1	20	..	..	..	2	4	36	8	..	1	..	8	3	9	28	24	..	..	5	1	15	1	15	9	2	..	..	..	91	283	
TOTAL	..	..	2	39	9	59	42	6	18	20	191	54	8	5	5	143	108	104	201	184	2	16	34	2	143	14	175	52	16	60	26	25	760	2523



Table VII. Causes of Death during the Year 1904. RURAL DISTRICTS.

DISTRICTS.			Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fever (Typhus, Enteric, and Continued).	Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	All other Causes.	All Causes.
BASFORD .. ..	1	4	8	16	9	2	5	8	29	6	3	2	..	36	27	33	56	33	1	8	4	2	19	2	82	21	9	..	..	..	173	599		
BINGHAM .. ..	..	1	2	7	2	..	..	5	2	..	..	..	..	21	3	8	14	14	1	1	4	..	2	..	33	6	2	..	..	..	117	245		
BLYTH AND CUCKNEY ..	..	1	..	..	..	1	1	1	2	..	..	..	..	3	2	3	6	8	..	..	..	..	2	..	2	3	..	12	..	2	11	60		
EAST RETFORD .. ..	..	..	..	4	..	..	1	4	..	1	1	..	..	9	9	15	30	12	..	7	2	..	11	..	23	1	1	..	..	..	91	222		
LEAKE .. ..	..	..	..	..	6	..	2	1	1	..	1	..	..	2	1	3	4	..	..	..	..	..	2	..	13	2	1	..	..	..	21	60		
MISTERTON .. ..	..	..	..	4	..	..	1	..	3	..	..	..	..	3	..	5	1	4	..	..	..	..	..	..	4	2	..	..	..	..	29	56		
NEWARK .. ..	..	3	..	3	..	..	..	..	1	..	..	..	..	7	..	6	..	7	..	..	1	..	7	..	12	2	1	..	..	..	43	93		
SKEGBY .. ..	..	2	..	..	..	..	..	..	2	1	..	..	..	5	7	1	2	3	..	..	2	..	2	..	6	1	..	3	..	..	29	66		
SOUTHWELL .. ..	..	..	..	14	..	..	1	5	7	1	..	1	1	19	5	15	25	26	..	..	4	..	11	..	33	7	3	53	..	5	78	314		
STAPLEFORD .. ..	..	..	1	..	4	1	2	..	4	3	1	..	..	8	5	3	13	4	..	1	2	..	9	2	10	1	2	10	11	5	13	115		
Notts. Parishes administered by SHARDLOW ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	3		
TOTAL .. ..	1	11	11	48	21	4	13	24	51	12	6	3	1	113	59	92	151	111	2	17	19	2	65	4	218	47	19	78	11	12	607	1833		





Table VIII. NOTTINGHAMSHIRE. Causes of, and Ages at, Death during the Year 1904. URBAN DISTRICTS.

CAUSES OF DEATH.	DEATHS IN URBAN DISTRICTS AT SUBJOINED AGES.						
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Small-pox .. .. .	2	..	..	..	1	..	1
Measles .. .. .	39	7	31	1	..	..	..
Scarlet Fever .. ..	9	..	5	3	1	..	..
Whooping-cough .. ..	59	28	27	4	..	..	..
Diphtheria and Membranous Croup .. .. .	42	1	21	19	1	..	..
Croup .. .. .	6	1	3	2	..	..	..
Enteric Fever .. ..	18	..	..	5	4	9	..
Epidemic Influenza ..	20	1	2	2	2	8	5
Diarrhoea .. .. .	191	158	26	..	1	2	4
Enteritis .. .. .	54	43	8	..	..	2	1
Puerperal Fever .. ..	8	..	..	..	4	4	..
Erysipelas .. .. .	5	4	..	..	..	1	..
Other septic diseases ..	5	1	..	..	..	4	..
Phthisis .. .. .	143	9	11	6	24	86	7
Other tuberculous diseases	108	51	28	11	9	7	2
Cancer, malignant disease	104	..	1	..	1	63	39
Bronchitis .. .. .	201	66	37	2	2	18	76
Pneumonia .. .. .	184	66	40	8	5	45	20
Pleurisy .. .. .	2	..	..	..	..	..	2
Other diseases of respiratory organs .. .. .	16	3	2	..	..	7	4
Alcoholism Cirrhosis of Liver ) .. ..	34	..	..	..	..	27	7
Venereal diseases .. ..	2	2	..	..	..	..	..
Premature birth .. ..	143	143	..	..	..	..	..
Diseases and accidents of Parturition .. .. .	14	..	..	..	2	12	..
Heart diseases .. ..	175	6	2	8	12	76	71
Accidents .. .. .	52	5	13	5	3	21	5
Suicides .. .. .	16	..	..	1	2	11	2
Old Age .. .. .	60	..	..	..	..	..	60
Convulsions .. .. .	26	17	5	..	2	2	..
Apoplexy .. .. .	25	1	..	..	..	8	16
All other causes .. ..	760	288	63	31	21	157	200
All causes .. .. .	2523	901	325	108	97	570	522



**Table IX. NOTTINGHAMSHIRE. Causes of and Ages at Death during the Year 1904. RURAL DISTRICTS and WHOLE COUNTY.**

CAUSES OF DEATH.	DEATHS IN RURAL DISTRICTS AT SUBJOINED AGES.							DEATHS IN WHOLE ADMINISTRATIVE COUNTY AT ALL AGES.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards	
Small Pox .. ..	1	..	..	..	..	1	..	3
Measles .. ..	11	3	6	2	..	..	..	50
Scarlet Fever .. ..	11	1	4	4	1	1	..	20
Whooping-cough .. ..	48	29	19	..	..	..	..	107
Diphtheria and Membranous Croup .. ..	21	1	8	12	..	..	..	63
Croup.. ..	4	1	1	2	..	..	..	10
Enteric Fever .. ..	13	..	..	4	4	5	..	31
Epidemic influenza.. ..	24	1	1	..	1	9	12	44
Diarrhœa .. ..	51	42	4	..	1	2	2	242
Enteritis .. ..	12	8	1	1	..	1	1	66
Puerperal fever .. ..	6	..	..	..	4	2	..	14
Erysipelas .. ..	3	..	..	..	..	1	2	8
Other septic diseases .. ..	1	..	1	..	..	..	..	6
Phthisis .. ..	113	2	2	9	22	76	2	256
Other tuberculous diseases.. ..	59	21	10	9	5	12	2	167
Cancer, malignant disease	92	..	..	..	..	56	36	196
Bronchitis .. ..	151	37	17	..	1	22	74	352
Pneumonia .. ..	111	24	26	2	7	28	24	295
Pleurisy .. ..	2	1	..	..	..	..	1	4
Other diseases of respiratory organs .. ..	17	1	5	2	1	4	4	33
Alcoholism ) Cirrhosis of Liver ) .. ..	19	..	..	..	..	13	6	53
Venereal diseases .. ..	2	2	..	..	..	..	..	4
Premature birth .. ..	65	65	..	..	..	..	..	208
Diseases and accidents of parturition .. ..	4	1	..	..	1	2	..	18
Heart diseases .. ..	218	1	..	6	7	87	117	393
Accidents .. ..	47	3	8	4	5	20	7	99
Suicides .. ..	19	..	..	..	4	11	4	35
Old Age .. ..	78	..	..	..	..	1	77	138
Convulsions .. ..	11	9	2	..	..	..	..	37
Apoplexy .. ..	12	1	..	..	..	3	8	37
All other causes .. ..	607	151	25	14	19	133	265	1367
All causes .. ..	1833	405	140	71	83	490	644	4356





**TABLE X. NOTTINGHAMSHIRE. Abstract of Vital Statistics**  
for the Twelve years, 1893-1904.

Year.	Estimated Population at the middle of the year.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Registered Births.	Births per 1000 of the Population.	Deaths under 1 year per 1000 Births.	Registered Deaths.	Deaths per 1000 of the Population.	Deaths from the Principal Epidemic Diseases per 1000 of the Population.
1893	240,026	·46	..	..	7949	33·1	..	4087	17 0	..
1894	243,965	·47	..	..	7747	31·7	130	3585	14·7	..
1895	248,060	·48	..	..	8066	32·5	154	4128	16 6	..
1896	252,282	·49	..	..	8154	32·3	138	3987	15·8	..
1897	256,667	·5	..	..	8186	31·8	152	4115	16·0	1·7
1898	261,224	·505	..	..	8117	31·0	151	4187	16·0	1·74
1899	265,952	·51	..	..	8266	31·0	161	4375	16·4	2·01
1900	270,862	·52	..	..	8292	30·6	160	4617	17·0	1·75
1901	275,971	·53	59,114	4·6	8636	31·3	145	4139	15·0	1·79
1902	285,673	·54	..	..	8920	31·2	138	4116	14·4	1·29
1903	294,566	·56	..	..	9072	30·7	134	4146	14·0	1·38
Average for 10 years, 1894-1903				..	..	31·2	147	..	15·6	..
1904	303,283	·58	..	..	9379	30·9	139	4375	14·4	1·70
For comparison—										
1904	England and Wales	..	..	..	..	27·9	146	..	16·2	1·94
	76 Great Towns	..	..	..	..	29·1	160	..	17·2	2·49
	142 Smaller Towns	..	..	..	..	27·5	154	..	15·6	2·02
	England and Wales less the 218 Towns	..	..	..	..	26·8	125	..	15·3	1·28

The Population for the years 1893—1901 inclusive, has been corrected according to the information derived from the censuses for 1891 and 1901. The Population for the years 1902 and 1903 is the total of the Populations of the 26 Districts as estimated by the Medical Officers of Health for each District.

The Statistics for England and Wales are those published in the Quarterly Return of the Registrar General for January, 1905. They are subject to revision when the causes of death and other details shall have been finally classified for publication in the Registrar General's 67th Annual Report. The alterations, however, are usually inappreciable.



Table XI. NOTTINGHAMSHIRE. Notified Cases, Deaths, and Fatality per 100 notified cases for four of the chief Notifiable Infectious Diseases, for each of the ten years, 1895-1904.

	SCARLET FEVER.			DIPHTHERIA and MEMBRANOUS CROUP.			ENTERIC FEVER, including "Continued."			PUERPERAL FEVER.		
	Cases.	Deaths.	Case Fatality per cent.	Cases.	Deaths.	Case Fatality per cent.	Cases.	Deaths.	Case Fatality per cent.	Cases.	Deaths.	Case Fatality per cent.
1895	540	26	4.8	88	35	39.7	300	44	14.6	24	11	45.8
1896	833	30	3.6	142	38	26.7	395	58	14.9	18	2	11.1
1897	824	29	3.5	137	35	25.5	277	41	14.8	21	9	42.8
1898	732	24	3.2	119	26	21.8	431	63	14.6	12	5	41.6
1899	1693	44	2.6	157	27	17.2	343	46	13.4	28	14	50.0
1900	1485	45	3.0	182	32	17.5	388	51	13.1	21	18	85.7
1901	1080	21	1.9	186	41	22.0	257	34	13.2	23	18	78.2
1902	829	13	1.5	209	29	13.4	160	22	13.7	20	9	45.0
1903	870	15	1.7	272	35	12.8	187	31	16.5	16	9	56.2
1904	984	20	2.03	447	63	14.1	187	31	16.5	17	14	82.3

N.B.—In the earlier years, several Districts had not adopted the Notification Act, therefore the notified cases fall short of the true number in the County. In 1899, only one District did not notify. Since January 1st, 1900, Notification has been universal. The deaths include the whole, because ALL deaths are registered consequently the case fatality in the earlier years is, no doubt, too high.



Table XII. NOTTINGHAMSHIRE.

Deaths from Non-notifiable Zymotic Diseases for  
each of the ten years, 1895-1904.

Year.	Measles.	Whooping Cough.	Diarrhea.	Phthisis.	Other Tuber- culous Diseases
1895	35	61	201	287	..
1896	230	51	88	233	..
1897	47	129	166	308	..
1898	62	40	240	303	..
1899	142	37	233	266	..
1900	67	109	158	256	184
1901	105	71	205	238	153
1902	77	71	85	229	173
1903	42	88	123	262	150
1904	50	107	242	256	167





TABLE XIII. Mortality in Administrative County of Nottingham, 1903.

	AGES.	ADMINISTRATIVE COUNTY (excluding Nottm. C.B.)				URBAN DISTRICTS.				RURAL DISTRICTS.			
		Population estimated to mid.1903.	Deaths 1903.	Death-rates per million.	Corresponding deaths in stand-ard million.	Population estimated to mid.1903.	Deaths 1903.	Death-rates per million.	Corresponding deaths in stand-ard million.	Population estimated to mid.1903.	Deaths 1903.	Death-rates per million.	Corresponding deaths in stand-ard million.
MALES.	0	17,642	935	52,999	3023·0	10,579	604	57,094	3256·6	7,063	331	46,864	2673·1
	5	32,086	63	1,963	205·8	18,652	32	1,716	179·9	13,434	31	2,308	242·0
	15	27,317	81	2,965	280·8	16,045	44	2,742	259·6	11,272	37	3,282	310·8
	25	20,761	94	4,528	346·1	12,648	59	4,665	356·5	8,113	35	4,314	329·7
	35	16,593	96	5,786	343·7	9,615	60	6,240	370·6	6,978	36	5,159	306·4
	45	12,129	156	12,862	552·1	6,747	97	14,377	617·1	5,382	59	10,962	470·5
	55	8,037	202	25,134	701·6	4,069	118	29,000	809·5	3,968	84	21,169	590·9
	65	6,868	615	89,546	1819·8	2,980	281	94,295	1916·4	3,888	334	85,905	1745·8
	All Ages	141,433	2,242	Crude Rate. 15,852	Corrected Rate. 15041	81,335	1,295	Crude Rate. 15,922	Corrected Rate. 16061	60,098	947	Crude Rate. 15,758	Corrected Rate. 13792
FEMALES.	0	17,952	775	43,171	2470·4	10,913	486	44,534	2548·4	7,039	289	41,057	2349·4
	5	32,436	67	2,066	217·2	18,919	41	2,167	227·8	13,517	26	1,923	202·1
	15	27,313	99	3,625	366·3	16,601	44	2,650	267·8	10,712	55	5,134	518·8
	25	21,656	108	4,987	424·7	13,145	56	4,260	362·8	8,511	52	6,110	520·3
	35	16,522	120	7,263	460·9	9,398	70	7,448	472·6	7,124	50	7,019	445·4
	45	11,865	142	11,968	554·1	6,505	75	11,530	533·8	5,360	67	12,500	578·7
	55	8,207	163	19,861	632·1	4,222	95	22,501	716·2	3,985	68	17,064	543·1
	65	7,490	543	72,497	1909·4	3,480	266	76,437	2013·1	4,010	277	69,077	1819·3
	All Ages	143,441	2,017	Crude Rate. 14,062	Corrected Rate. 13622	83,183	1,133	Crude Rate. 13,621	Corrected Rate. 13830	60,258	884	Crude Rate. 14,670	Corrected Rate. 13510
PERSONS	All Ages	284,874	4,259	Crude Rate. 14,950	Corrected Rate. 14308	164,518	2,428	Crude Rate. 14,758	Corrected Rate. 14909	120,356	1,831	Crude Rate. 15,213	Corrected Rate. 13646

N.B.—Rates per million are converted into rates per 1000 by omitting the last three figures; or, more accurately, by placing a decimal point between the second and third figures.



TABLE XIV. Mortality in Administrative County of Nottingham, 1904.

	AGES.	ADMINISTRATIVE COUNTY (excluding Nottm. C.B.)				URBAN DISTRICTS.				RURAL DISTRICTS.			
		Population estimated to mid.1904.	Deaths 1904.	Death-rates per million.	Corresponding deaths in standard million.	Population estimated to mid.1904.	Deaths 1904.	Death-rates per million.	Corresponding deaths in standard million.	Population estimated to mid.1904.	Deaths 1904.	Death-rates per million.	Corresponding deaths in standard million.
MALES.	0	17,932	1,028	57,328	3269.9	10,825	678	62,633	3572.5	7,107	350	49,247	2809.0
	5	32,603	94	2,883	302.2	19,085	55	2,882	302.1	13,518	39	2,885	302.4
	15	27,761	74	2,666	252.5	16,419	39	2,375	224.9	11,342	35	3,086	292.2
	25	21,107	97	4,596	351.2	12,943	54	4,172	318.8	8,164	43	5,267	402.5
	35	16,860	110	6,524	387.5	9,839	64	6,505	386.4	7,021	46	6,552	389.1
	45	12,319	165	13,394	574.9	6,903	93	13,472	578.3	5,416	72	13,294	570.6
	55	8,156	207	25,380	708.4	4,163	112	26,904	751.0	3,993	95	23,792	664.1
	65	6,962	561	80,580	1637.6	3,050	251	82,295	1672.5	3,912	310	79,243	1610.5
	All Ages	143,700	2,336	Crude Rate. 16,256	Corrected Rate. 15478	83,227	1,346	Crude Rate. 16,173	Corrected Rate. 16144	60,473	990	Crude Rate. 16,371	Corrected Rate. 14560
FEMALES.	0	18,249	785	43,016	2461.5	11,167	564	50,506	2890.1	7,082	221	31,206	1785.7
	5	32,963	88	2,670	280.6	19,360	51	2,634	276.9	13,603	37	2,720	285.9
	15	27,765	96	3,458	349.4	16,987	50	2,943	297.4	10,778	46	4,268	431.3
	25	22,015	112	5,087	433.2	13,451	63	4,684	398.9	8,564	49	5,722	487.3
	35	16,785	125	7,447	472.5	9,617	70	7,279	461.9	7,168	55	7,673	486.9
	45	12,049	119	9,876	457.2	6,656	71	10,667	493.9	5,393	48	8,900	412.1
	55	8,330	193	23,169	737.4	4,320	101	23,380	744.1	4,010	92	22,943	730.2
	65	7,596	633	83,333	2194.8	3,561	313	87,897	2315.0	4,035	320	79,306	2088.8
	All Ages	145,752	2,151	Crude Rate. 14,758	Corrected Rate. 14302	85,119	1,283	Crude Rate. 15,073	Corrected Rate. 15254	60,633	868	Crude Rate. 14,316	Corrected Rate. 12989
Persons	All Ages	289,452	4,487	Crude Rate. 15,502	Corrected Rate. 14871	168,346	2,629	Crude Rate. 15,617	Corrected Rate. 15685	121,106	1,858	Crude Rate. 15,342	Corrected Rate. 13749

N.B.—Rates per million are converted into rates per 1000 by omitting the last three figures ; or, more accurately, by placing a decimal point after the second figure.

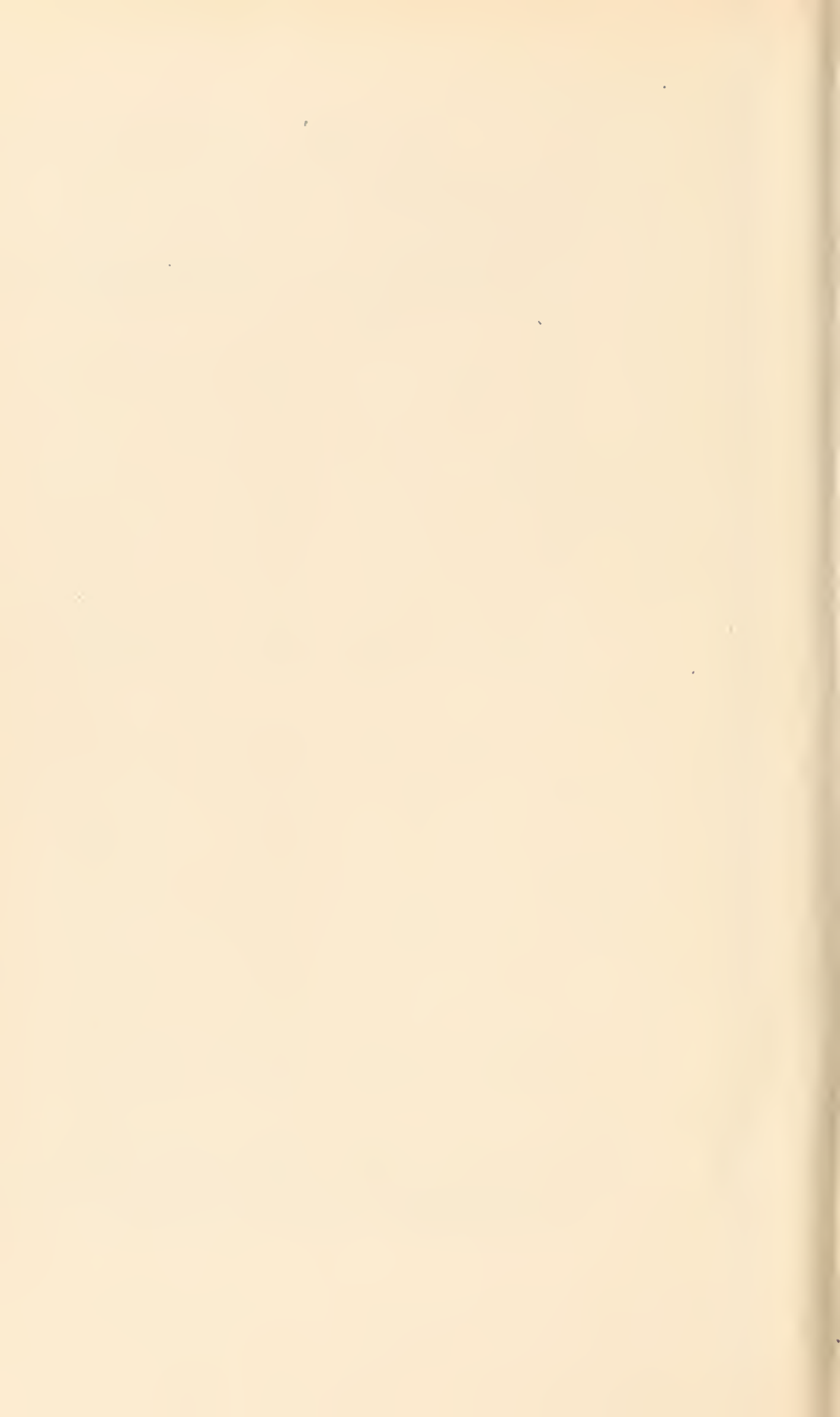




Table XV. NOTTINGHAMSHIRE. RAINFALL.

DISTRICT.	Total depth in inches, 1904.	No. of Rainy days, 1904.	Total depth in inches, 1903.	No. of Rainy days, 1903.	Total depth in inches, 1902.	No. of Rainy days, 1902.		Gauge above ground.	Above Sea level.	STATION AND OBSERVER.
EAST RETFORD.. (Urban)	19·86	166	29·51	187	19·69	169	{ <div>             Average for 47 years ending 1903.             <div>               Total.               No. of rainy days.             </div> </div> }	..	..	W. EYRE, Esq., Grammar School, Retford.
BEESTON .. ..	21·65	174	35·00	203	21·84	190	{ <div>             Mean of 20 years ending 1901.             <div>               Total.               No. of rainy days.             </div> </div> }	9 inches	206 ft.	G. FELLOWS, Esq., Beeston Fields, Nottingham.
CARLTON .. ..	19·29	131	..	..	..	..	..	1 ft.	400 ft.	E. POWELL, Esq., The City Asylum, Mapperley, Nottingham.
EASTWOOD .. ..	21·19	157	34·40	186	24·84	178	..	1 ft.	245 ft.	E. LINDLEY, Esq., Eastwood, Nottingham.
BASFORD .. ..	20·57	141	34·32	173	23·43	175	..	1 ft.	475 ft.	Mr. G. I. FLETCHER, Selston Waterworks, near Annesley, Nottingham.
BASFORD .. ..	19·40	162	31·64	197	23·09	189	..	1 ft.	396 ft.	T. L. K. EDGE, Esq., Strelley, Nottingham.
BASFORD .. ..	19·439	155	28·57	180	19·68	161	..	1 ft.	65·8 ft.	Mr. A. A. AVIS, Corporation Farm, Stoke Bardolph, Nottingham.
BASFORD .. ..	21·11	174	..	..	..	..	..	9 inches	64 ft.	F. W. DAVIES, Esq., Burton Joyce Waterworks, Nottingham.
BLYTH & CUCKNEY ..	19·81	165	27·95	190	22·10	170	{ <div>             Average for 25 years ending 1900.             <div>               Total.               No. of rainy days.             </div> </div> }	..	56 ft.	H. MELLISH, Esq., Hodsock Priory, Worksop.
NEWARK .. .. (Rural)	17·21	119	27·48	152	17·36	141	{ <div>             Average for 11 years ending 1904.             <div>               Total.               No. of rainy days.             </div> </div> }	1 ft. 4 in.	52 ft.	Rev. E. C. SHAWFIELD, South Scarle, Newark.

